

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:07 ; Search time 74.25 Seconds  
(without alignments)  
929.057 Million cell updates/sec

Title: US-10-668-178-3  
Perfect score: 814  
Sequence: 1 VRSSRTSPDMEVAHVANP.....RPDYLDFAESGVFGIIAL 157

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_21.\*  
1: Geneseq1980s.\*  
2: Geneseq1990s.\*  
3: Geneseq2000s.\*  
4: Geneseq2001s.\*  
5: Geneseq2002s.\*  
6: Geneseq2003as.\*  
7: Geneseq2003bs.\*  
8: Geneseq2004s.\*  
9: Geneseq2005s.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	814	100.0	157	8 ADH10160	Human tum
2	807	99.1	157	9 AEB45433	TNF-R1 sp
3	806	99.0	157	9 AEB45432	TNF-R1 sp
4	805	98.9	157	9 AEB45434	TNF-R1 sp
5	803	98.6	157	9 AEB45430	TNF-R1 sp
6	800	98.3	157	9 AEB45453	TNF-R2 sp
7	799	98.2	157	9 AEB45431	TNF-R1 sp
8	795	97.7	157	9 AEB45454	TNF-R2 sp
9	793	97.4	157	9 AEB45459	TNF-R2 sp
10	792	97.3	157	9 AEB45438	TNF-R1 sp
11	792	97.3	157	9 AEB45436	TNF-R1 sp
12	792	97.3	157	9 AEB45461	TNF-R2 sp
13	791	97.2	157	9 AEB45460	TNF-R2 sp
14	791	97.2	157	9 AEB45464	TNF-R2 sp
15	790	97.1	157	9 AEB45472	TNF-R2 sp
16	790	97.1	157	9 AEB45471	TNF-R2 sp
17	790	97.1	157	9 AEB45455	TNF-R2 sp
18	790	97.1	157	9 AEB45466	TNF-R2 sp
19	790	97.1	157	9 AEB45474	TNF-R2 sp
20	790	97.1	157	9 AEB45457	TNF-R2 sp
21	790	97.1	157	9 AEB45475	TNF-R2 sp
22	789	96.9	157	9 AEB45458	TNF-R2 sp
23	789	96.9	157	9 AEB45473	TNF-R2 sp
24	789	96.9	157	9 AEB45467	TNF-R2 sp

25	789	96.9	157	9 AEB45468	TNF-R2 sp
26	788	96.8	157	9 AEB45437	TNF-R1 sp
27	788	96.8	157	9 AEB45462	TNF-R2 sp
28	788	96.8	157	9 AEB45470	TNF-R2 sp
29	787	96.7	157	9 AEB45456	TNF-R2 sp
30	787	96.7	157	9 AEB45459	TNF-R2 sp
31	787	96.7	157	9 AEB45465	TNF-R2 sp
32	787	96.7	157	9 AEB45463	TNF-R2 sp
33	785	96.4	157	9 AEB45429	TNF-R1 sp
34	784	96.3	157	9 AEB45428	TNF-R1 sp
35	784	96.3	157	9 AEB45425	TNF-R1 sp
36	783	96.2	157	9 AEB45421	Human TNF
37	782	96.1	157	9 AEB45427	TNF-R1 sp
38	782	96.1	157	9 AEB45423	Human TNF
39	782	96.1	157	9 AEB45435	TNF-R1 sp
40	780	95.8	157	2 AAE62465	Tumour ne
41	779	95.7	157	1 AAP60524	Sequence
42	779	95.7	157	1 AAP70095	Tumour ne
43	779	95.7	157	1 AAP70144	Amino aci
44	779	95.7	157	1 AAR14270	Human TNF
45	779	95.7	157	2 AAR14112	Neutroph

ALIGNMENTS

RESULT 1  
ADH10160  
ID ADH10160 standard; protein; 157 AA.  
XX  
AC ADH10160;  
XX  
DT 11-MAR-2004 (first entry)  
XX  
DE Human tumour necrosis factor variant protein.  
XX  
KW TNF; tumour necrosis factor; polyethylene glycol; cytostatic; cancer;  
KW human; variant.  
XX  
OS Homo sapiens.  
XX  
PN EP1354893-A2.  
XX  
PD 22-OCT-2003.  
XX  
PF 30-JAN-2003; 2003EP-00250587.  
XX  
PR 25-MAR-2002; 2002JP-00083509.  
PR 26-JUN-2002; 2002JP-00185387.

(HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
(MAYU/) MAYUMI T.  
(TSUT/) TSUTSUMI Y.  
(NAKA/) NAKAGAWA S.  
Mayumi T, Tsutsumi Y, Nakagawa S, Ikegami H;  
WPI: 2004-063952/07.  
N-PSDB; ADH10169.  
A physiologically active complex which comprises a protein part with tumor necrosis factor activity and a high molecular part has higher stability and retention in living bodies and is useful to treat disease, particularly cancer.  
Example 1; SEQ ID NO 3; 18pp; English.  
The present sequence represents a physiologically active complex which comprises a proteinaceous part with tumour necrosis factor (TNF) activity and a high molecular part bound artificially to the N-terminus of the proteinaceous part. The proteinaceous part comprises the sequence selected from ADH10159 and the molecular part has a molecular weight of 500-5000 Da and is a homopolymer of polyethylene glycol or a copolymer of

CC ethylene glycol and its derivatives. The invention is used to treat  
 CC susceptible disease, particularly cancer. The complex has a higher  
 CC stability and longer retention time in living bodies than intact tumor  
 CC necrosis factor. The present sequence represents a human TNF variant  
 CC protein.  
 XX  
 SQ Sequence 157 AA;

Query Match 100.0%; Score 814; DB 8; Length 157;  
 Best Local Similarity 100.0%; Pred. No. 9.6e-76;  
 Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRNQLVVPSEGLYLIYS 60  
 DB 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRNQLVVPSEGLYLIYS 60  
 QY 61 QVLFSGQGPCSTHLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAENPWTEPIYL 120  
 DB 61 QVLFSGQGPCSTHLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAENPWTEPIYL 120  
 QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGQVYFGIIAL 157  
 DB 121 GGVFQLEPGDRLSABINRPDYLDFAESGQVYFGIIAL 157

RESULT 2  
 ID AEB45433 standard; protein; 157 AA.  
 AC AEB45433;  
 XX  
 DT 22-SEP-2005 (first entry)  
 XX  
 DE TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:17.  
 KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmoidium infection; meningitis; hepatitis; Alzheimer's disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 PN WO2005066206-A1.  
 XX  
 XX 21-JUL-2005.  
 XX  
 XX 05-JAN-2005; 2005WO-JP0000032.  
 XX  
 XX 06-JAN-2004; 2004JP-00001427.  
 XX  
 XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.  
 XX  
 PI Mayumi T, Teutsumi Y, Nakagawa S, Ohta T;  
 XX  
 DR WPI; 2005-506850/51.  
 DR N-PSDB; AEB45447.  
 XX  
 XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.  
 XX  
 PS Claim 4; SEQ ID NO 17; 34pp; Japanese.  
 XX

CC The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC a TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.  
 XX  
 SQ Sequence 157 AA;

Query Match 99.1%; Score 807; DB 9; Length 157;  
 Best Local Similarity 98.7%; Pred. No. 5.1e-75;  
 Matches 155; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRNQLVVPSEGLYLIYS 60  
 DB 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRNQLVVPSEGLYLIYS 60  
 QY 61 QVLFSGQGPCSTHLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAENPWTEPIYL 120  
 DB 61 QVLFSGQGPCSTHLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAENPWTEPIYL 120  
 QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGQVYFGIIAL 157  
 DB 121 GGVFQLEPGDRLSABINRPDYLDFAESGQVYFGIIAL 157

RESULT 3  
 ID AEB45432 standard; protein; 157 AA.  
 AC AEB45432;  
 XX  
 DT 22-SEP-2005 (first entry)  
 XX  
 DE TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:16.  
 XX  
 KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmoidium infection; meningitis; hepatitis; Alzheimer's disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mutein.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 PN WO2005066206-A1.  
 XX  
 XX 21-JUL-2005.  
 XX  
 XX 05-JAN-2005; 2005WO-JP0000032.  
 XX  
 XX 06-JAN-2004; 2004JP-00001427.  
 XX

PA (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.  
XX  
XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
PI  
XX  
XX  
XX WPI: 2005-506850/51.  
DR N-PSDB; AEB45446.  
XX  
XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
PT and/or preventing diseases such as inflammation, and other diseases  
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
PT rheumatoid arthritis, allergy.  
XX  
XX Claim 4; SEQ ID NO 16; 34pp; Japanese.  
XX  
XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
XX particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
XX TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
XX a TNF mutant protein comprising an amino acid sequence derived from the  
XX human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
XX one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
XX N-terminus, and amino acid residues at positions 84-89 by other amino  
XX acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
XX mutant protein; and (2) a TNF formulation comprising a TNF mutant  
XX protein. The TNF mutant proteins are useful for treating and/or  
XX preventing diseases such as inflammation, and other diseases caused by  
XX overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
XX cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
XX Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
XX transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
XX respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
XX lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
XX etc. The TNF mutant proteins are highly stable in vivo. This sequence  
XX represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
XX The sequence data for this patent did not form part of the printed  
XX specification, but was obtained in electronic format directly from WIPO  
XX at ftp.wipo.int/pub/published\_pct\_sequences.  
XX  
SQ Sequence 157 AA;  
Query Match 99.0%; Score 806; DB 9; Length 157;  
Best Local Similarity 98.7%; Pred. No. 6.4e-75;  
Matches 155; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGGCGPSTHLLTHTTISRIVSYQTPVNLISAIRSCQRETPEGAANPWYEPYIL 120  
DB 61 QVLFSGGCGPSTHLLTHTTISRIVSYQTPVNLISAIRSCQRETPEGAANPWYEPYIL 120  
QY 121 GGVFQLEPGDRLSABINRPDYLDPFASGQVYFGIAL 157  
DB 121 GGVFQLEPGDRLSABINRPDYLDPFASGQVYFGIAL 157  
RESULT 4  
AEB45434  
ID AEB45434 standard; protein; 157 AA.  
XX  
AC AEB45434;  
XX  
DT 22-SEP-2005 (first entry)  
XX  
XX TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:18.  
DE  
XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;

KW antinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
KW antipsozitic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
KW muten.  
XX  
XX Homo sapiens.  
OS Synthetic.  
XX  
XX WO2005066206-A1.  
XX  
XX 21-JUL-2005.  
XX  
XX 05-JAN-2005; 2005WO-JP000032.  
XX  
XX 06-JAN-2004; 2004JP-00001427.  
XX  
XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.  
XX  
XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
PI  
XX WPI: 2005-506850/51.  
DR N-PSDB; AEB45448.  
XX  
XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
PT and/or preventing diseases such as inflammation, and other diseases  
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
PT rheumatoid arthritis, allergy.  
XX  
XX Claim 4; SEQ ID NO 18; 34pp; Japanese.  
XX  
XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
XX particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
XX TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
XX a TNF mutant protein comprising an amino acid sequence derived from the  
XX human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
XX one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
XX N-terminus, and amino acid residues at positions 84-89 by other amino  
XX acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
XX mutant protein; and (2) a TNF formulation comprising a TNF mutant  
XX protein. The TNF mutant proteins are useful for treating and/or  
XX preventing diseases such as inflammation, and other diseases caused by  
XX overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
XX cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
XX Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
XX transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
XX respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
XX lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
XX etc. The TNF mutant proteins are highly stable in vivo. This sequence  
XX represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
XX The sequence data for this patent did not form part of the printed  
XX specification, but was obtained in electronic format directly from WIPO  
XX at ftp.wipo.int/pub/published\_pct\_sequences.  
XX  
SQ Sequence 157 AA;  
Query Match 98.9%; Score 805; DB 9; Length 157;  
Best Local Similarity 98.7%; Pred. No. 8.2e-75;  
Matches 155; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGGCGPSTHLLTHTTISRIVSYQTPVNLISAIRSCQRETPEGAANPWYEPYIL 120  
DB 61 QVLFSGGCGPSTHLLTHTTISRIVSYQTPVNLISAIRSCQRETPEGAANPWYEPYIL 120  
QY 121 GGVFQLEPGDRLSABINRPDYLDPFASGQVYFGIAL 157  
DB 121 GGVFQLEPGDRLSABINRPDYLDPFASGQVYFGIAL 157





CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein, and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.  
 CC  
 XX Sequence 157 AA;

Query Match 98.3%; Score 800; DB 9; Length 157;  
 Best Local Similarity 98.1%; Pred. No. 2.7e-74;  
 Matches 155; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDMPVAHVAVNPQAEGLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
 DB 1 VRSSRTSPDMPVAHVAVNPQAEGLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
 QY 61 QVLFSGGCGPSTHVLTHTRISIAVSQTPVNLISAIRSPCQRETPGEGANPWYPIYL 120  
 DB 61 QVLFSGGCGPSTHVLTHTRISIAVSQTPVNLISAIRSPCQRETPGEGANPWYPIYL 120  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFABSGQVYFGIAL 157  
 DB 121 GGVFQLEPGDRLSAEINRPDYLDFABSGQVYFGIAL 157

RESULT 7  
 AEB45431  
 ID AEB45431 standard; protein; 157 AA.

XX AEB45431;  
 XX  
 XX 22-SEP-2005 (first entry)  
 XX  
 XX TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:15.  
 XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmadum infection; meningitis; hepatitis; Alzheimer's disease;  
 KW antiinflammatory; cytostatic; antineumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mtein.  
 XX  
 XX Homo sapiens.  
 OS Synthetic.  
 XX  
 XX W02005066206-A1.  
 XX  
 XX 21-JUL-2005.  
 XX  
 XX 05-JAN-2005; 2005WO-JF000032.  
 XX  
 XX 06-JAN-2004; 2004JP-00001427.  
 XX  
 XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUTU/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.  
 XX

PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
 XX WPI; 2005-506850/51.  
 DR N-PSDB; AEB45445.  
 XX  
 XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 XX rheumatoid arthritis, allergy.  
 XX  
 PS Claim 4; SEQ ID NO 15; 34pp; Japanese.  
 XX  
 XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.  
 XX  
 XX Sequence 157 AA;

Query Match 98.2%; Score 799; DB 9; Length 157;  
 Best Local Similarity 98.1%; Pred. No. 3.4e-74;  
 Matches 154; Conservative 0; Mismatches 3; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDMPVAHVAVNPQAEGLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
 DB 1 VRSSRTSPDMPVAHVAVNPQAEGLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
 QY 61 QVLFSGGCGPSTHVLTHTRISIAVSQTPVNLISAIRSPCQRETPGEGANPWYPIYL 120  
 DB 61 QVLFSGGCGPSTHVLTHTRISIAVSQTPVNLISAIRSPCQRETPGEGANPWYPIYL 120  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFABSGQVYFGIAL 157  
 DB 121 GGVFQLEPGDRLSAEINRPDYLDFABSGQVYFGIAL 157  
 RESULT 8  
 AEB45454  
 ID AEB45454 standard; protein; 157 AA.  
 XX  
 XX AEB45454;  
 XX  
 XX 22-SEP-2005 (first entry)  
 XX  
 XX TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:38.

XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmadum infection; meningitis; hepatitis; Alzheimer's disease;  
 KW antiinflammatory; cytostatic; antineumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mtein.

```

XX OS Homo sapiens.
XX AC Synthetic.
XX PN WO2005066206-A1.
XX PD 21-JUL-2005.
XX PF 05-JAN-2005; 2005WO-JP000032.
XX PR 06-JAN-2004; 2004JP-00001427.
XX PA (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
XX PA (MAYU/) MAYUMI T.
XX PA (TSUT/) TSUTSUMI Y.
XX PA (NAKA/) NAKAGAWA S.
XX PI Mayumi T, Teutsuimi Y, Nakagawa S, Ohta T;
XX DR WPI; 2005-506850/51.
XX DR N-PSDB; AEB45469.
XX PT Novel tumor necrosis factor TNF mutant protein, useful for treating
XX PT and/or preventing diseases such as inflammation, and other diseases
XX PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
XX PT rheumatoid arthritis, allergy.
XX PS Claim 5; SEQ ID NO 38; 34pp; Japanese.
XX CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
XX CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
XX CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
XX CC a TNF mutant protein comprising an amino acid sequence derived from the
XX CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
XX CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
XX CC N-terminus, and amino acid residues at positions 84-89 by other amino
XX CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
XX CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
XX CC protein. The TNF mutant proteins are useful for treating and/or
XX CC preventing diseases such as inflammation, and other diseases caused by
XX CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
XX CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
XX CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
XX CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
XX CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
XX CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
XX CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
XX CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
XX CC The sequence data for this patent did not form part of the printed
XX CC specification, but was obtained in electronic format directly from WIPO
XX CC at ftp.wipo.int/pub/published_pct_sequences.
XX SQ Sequence 157 AA;
Query Match 97.7%; Score 795; DB 9; Length 157;
Best Local Similarity 98.1%; Pred. No. 8.8e-74;
Matches 154; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 VRSSRTPSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db 1 VRSSRTPSDMPVAHVANPQAEQQLQWNGYANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQGCPTSHVLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAANPWTEPIYL 120
Db 61 QVLFSGQGCPTSHVLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAANPWTEPIYL 120
QY 121 GGVFQLEPGDRLSAENRPDYLDFAESGGVYFGITAL 157
Db 121 GGVFQLEPGDRLSAENRPDYLDFAESGGVYFGITAL 157

```

RESULT 9  
AEB45469

```

ID AEB45469 standard; protein; 157 AA.
XX AC AEB45469;
XX DT 22-SEP-2005 (first entry)
XX DE TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:53.
XX KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;
XX KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;
XX KW acquired immune deficiency syndrome; severe acute respiratory syndrome;
XX KW plasmoid infection; meningitis; hepatitis; Alzheimer's disease;
XX KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;
XX KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;
XX KW vasotropic; cerebroprotective; dermatological; immunomodulator;
XX KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;
XX KW mutein.
XX OS Homo sapiens.
XX OS Synthetic.
XX PN WO2005066206-A1.
XX XX 21-JUL-2005.
XX XX 05-JAN-2005; 2005WO-JP000032.
XX PR 06-JAN-2004; 2004JP-00001427.
XX PA (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.
XX PA (MAYU/) MAYUMI T.
XX PA (TSUT/) TSUTSUMI Y.
XX PA (NAKA/) NAKAGAWA S.
XX PI Mayumi T, Teutsuimi Y, Nakagawa S, Ohta T;
XX DR WPI; 2005-506850/51.
XX DR N-PSDB; AEB45492.
XX PT Novel tumor necrosis factor TNF mutant protein, useful for treating
XX PT and/or preventing diseases such as inflammation, and other diseases
XX PT caused by overexpression of TNF, such as autoimmune diseases, tumor,
XX PT rheumatoid arthritis, allergy.
XX PS Claim 5; SEQ ID NO 53; 34pp; Japanese.
XX CC The invention relates to tumor necrosis factor (TNF) mutant proteins,
XX CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or
XX CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses
XX CC a TNF mutant protein comprising an amino acid sequence derived from the
XX CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of
XX CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the
XX CC N-terminus, and amino acid residues at positions 84-89 by other amino
XX CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF
XX CC mutant protein; and (2) a TNF formulation comprising a TNF mutant
XX CC protein. The TNF mutant proteins are useful for treating and/or
XX CC preventing diseases such as inflammation, and other diseases caused by
XX CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon
XX CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),
XX CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,
XX CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute
XX CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic
XX CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,
XX CC etc. The TNF mutant proteins are highly stable in vivo. This sequence
XX CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:
XX CC The sequence data for this patent did not form part of the printed
XX CC specification, but was obtained in electronic format directly from WIPO
XX CC at ftp.wipo.int/pub/published_pct_sequences.
XX SQ Sequence 157 AA;
Query Match 97.4%; Score 793; DB 9; Length 157;
Best Local Similarity 97.5%; Pred. No. 1.4e-73;

```



PT Novel tumor necrosis factor TNF mutant protein, useful for treating  
PT and/or preventing diseases such as inflammation, and other diseases  
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
PT rheumatoid arthritis, allergy.

XX  
XX PS Claim 4; SEQ ID NO 20; 34pp; Japanese.

XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
CC a TNF mutant protein comprising an amino acid sequence derived from the  
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
CC N-terminus, and amino acid residues at positions 84-89 by other amino  
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
CC protein. The TNF mutant proteins are useful for treating and/or  
CC preventing diseases such as inflammation, and other diseases caused by  
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, cachexia,  
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
CC The sequence data for this patent did not form part of the printed  
CC specification, but was obtained in electronic format directly from WIPO  
CC at ftp.wipo.int/pub/published\_pct\_sequences.

XX Sequence 157 AA;

Query Match 97.3%; Score 792; DB 9; Length 157;  
Best Local Similarity 97.5%; Pred. No. 1.8e-73;  
Matches 153; Conservative 0; Mismatches 4; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 1 VRSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGQCGPSTHLLTHTTISRIVSYOTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
Db 61 QVLFSGQCGPSTHLLTHTTISRIVSYOTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 12

AEB45461 ID AEB45461 standard; protein; 157 AA.

XX AEB45461;

XX 22-SEP-2005 (first entry)

XX TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:45.

XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
KW plasmoidum infection; meningitis; hepatitis; Alzheimer's disease;  
KW antiinflammatory; cytostatic; antirheumatic; antirheumatic; antiallergic;  
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
KW muten.

XX Homo sapiens.

OS Synthetic.

XX WO2005066206-A1.

XX 21-JUL-2005.  
XX PD  
XX PF 05-JAN-2005; 2005WO-JP000032.  
XX PR 06-JAN-2004; 2004JP-00001427.

XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.

XX Mayumi T, Teuteumi Y, Nakagawa S, Ohta T;

XX WPI; 2005-506850/51.  
DR N-PSDB; AEB45484.

XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
PT and/or preventing diseases such as inflammation, and other diseases  
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
PT rheumatoid arthritis, allergy.

XX Claim 5; SEQ ID NO 45; 34pp; Japanese.

XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
CC a TNF mutant protein comprising an amino acid sequence derived from the  
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
CC N-terminus, and amino acid residues at positions 84-89 by other amino  
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
CC protein. The TNF mutant proteins are useful for treating and/or  
CC preventing diseases such as inflammation, and other diseases caused by  
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma,  
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
CC The sequence data for this patent did not form part of the printed  
CC specification, but was obtained in electronic format directly from WIPO  
CC at ftp.wipo.int/pub/published\_pct\_sequences.

XX Sequence 157 AA;

Query Match 97.3%; Score 792; DB 9; Length 157;  
Best Local Similarity 96.8%; Pred. No. 1.8e-73;  
Matches 152; Conservative 3; Mismatches 2; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 1 VRSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGQCGPSTHLLTHTTISRIVSYOTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
Db 61 QVLFSGQCGPSTHLLTHTTISRIVSYOTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
RESULT 13  
AEB45460 ID AEB45460 standard; protein; 157 AA.  
XX AEB45460;  
XX 22-SEP-2005 (first entry)

XX TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:44.  
 DE tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 XX autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmadum infection; meningitis; hepatitis; Alzheimers disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mtein.  
 XX Homo sapiens.  
 XX Synthetic.  
 OS WO2005066206-A1.  
 XX  
 PN 21-JUL-2005.  
 XX  
 PD 05-JAN-2005; 2005WO-JP000032.  
 XX  
 PF 06-JAN-2004; 2004JP-00001427.  
 XX  
 PR (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.  
 XX  
 XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
 PI WPI; 2005-506850/51.  
 XX N-PSDB; AEB45483.  
 DR  
 XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.  
 XX  
 XX Claim 5; SEQ ID NO 44; 34pp; Japanese.  
 PS  
 XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at fcp.wipo.int/pub/published\_pot\_sequences.  
 XX  
 SQ Sequence 157 AA;  
 Query Match 97.2%; Score 791; DB 9; Length 157;  
 Best Local Similarity 96.8%; Pred. No. 2.3e-73;  
 Matches 152; Conservative 2; Mismatches 3; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDMPVAHVYVNPQAEQLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
 DB 1 VRSSRTSPDMPVAHVYVNPQAEQLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60

QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYPIYL 120  
 DB 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYPIYL 120  
 QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIALL 157  
 DB 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIALL 157  
 RESULT 14  
 AEB45464  
 ID AEB45464 standard; protein; 157 AA.  
 XX  
 AC AEB45464;  
 XX  
 XX 22-SEP-2005 (first entry)  
 XX  
 DE TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:48.  
 XX  
 KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmadum infection; meningitis; hepatitis; Alzheimers disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mtein.  
 XX Homo sapiens.  
 OS Synthetic.  
 XX WO2005066206-A1.  
 XX  
 PD 21-JUL-2005.  
 XX  
 PF 05-JAN-2005; 2005WO-JP000032.  
 XX  
 PR 06-JAN-2004; 2004JP-00001427.  
 XX  
 PA (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.  
 XX  
 XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
 DR WPI; 2005-506850/51.  
 DR N-PSDB; AEB45487.  
 XX  
 XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.  
 XX  
 XX Claim 5; SEQ ID NO 48; 34pp; Japanese.  
 PS  
 XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at fcp.wipo.int/pub/published\_pot\_sequences.  
 XX  
 SQ Sequence 157 AA;  
 Query Match 97.2%; Score 791; DB 9; Length 157;  
 Best Local Similarity 96.8%; Pred. No. 2.3e-73;  
 Matches 152; Conservative 2; Mismatches 3; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDMPVAHVYVNPQAEQLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
 DB 1 VRSSRTSPDMPVAHVYVNPQAEQLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60

CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.

XX Sequence 157 AA;

Query Match 97.2%; Score 791; DB 9; Length 157;  
 Best Local Similarity 96.8%; Pred. No. 2.3e-73;  
 Matches 152; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60  
 DB 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60

QY 61 QVLFSGQGPCSTHVLTTHTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120  
 DB 61 QVLFSGQGPCSTHVLTTHTISRITVYSGPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120

QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGQVYFGIIAL 157  
 DB 121 GGVFQLEPGDRLSABINRPDYLDFAESGQVYFGIIAL 157

RESULT 15  
 AEB45472  
 ID AEB45472 standard; protein; 157 AA.

XX AEB45472;  
 AC AEB45472;  
 XX AEB45472;  
 DT 22-SEP-2005 (first entry)  
 XX  
 DE TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:56.  
 XX  
 KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmodium infection; meningitis; hepatitis; Alzheimer's disease;  
 KW antiinflammatory; cycostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mutein.

XX Homo sapiens.  
 OS Synthetic.  
 XX  
 PN WO2005066206-A1.  
 XX  
 PD 21-JUL-2005.  
 XX  
 XX 05-JAN-2005; 2005WO-JP000032.  
 XX  
 XX 06-JAN-2004; 2004JP-00001427.  
 XX  
 XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.  
 XX  
 XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
 PI  
 XX WPI; 2005-506850/51.  
 DR N-PSDB; AEB45495.  
 DR  
 XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.

PS Claim 5; SEQ ID NO 56; 34pp; Japanese.

XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.

SQ Sequence 157 AA;

Query Match 97.1%; Score 790; DB 9; Length 157;  
 Best Local Similarity 96.8%; Pred. No. 2.9e-73;  
 Matches 152; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60  
 DB 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60

QY 61 QVLFSGQGPCSTHVLTTHTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120  
 DB 61 QVLFSGQGPCSTHVLTTHTISRITVYSGPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120

QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGQVYFGIIAL 157  
 DB 121 GGVFQLEPGDRLSABINRPDYLDFAESGQVYFGIIAL 157

Search completed: May 5, 2006, 11:26:32  
 Job time : 74.25 secs



GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:42 ; Search time 18 seconds  
(without alignments)  
839.224 Million cell updates/sec

Title: US-10-668-178-3  
Perfect score: 814  
Sequence: 1 VRSSSRTPSDMPVAHVANP.....RPDYLDFAESGVYFGIIAL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : PIR 80:.\*  
1: PIR1:.\*  
2: PIR2:.\*  
3: PIR3:.\*  
4: PIR4:.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	779	95.7	233	1 QWHUN	tumor necrosis fac
2	772	94.8	233	1 S22052	tumor necrosis fac
3	712	87.5	233	2 S11688	tumor necrosis fac
4	697	85.6	234	1 JQ1344	tumor necrosis fac
5	677.5	83.2	232	1 S12606	tumor necrosis fac
6	634.5	77.9	235	1 QWMSN	tumor necrosis fac
7	633.5	77.8	234	1 A25451	tumor necrosis fac
8	631	77.5	185	2 S52715	tumor necrosis fac
9	631	77.5	233	1 S24642	tumor necrosis fac
10	629	77.3	234	1 JH0529	tumor necrosis fac
11	628.5	77.2	235	2 I54490	tumor necrosis fac
12	624.5	76.7	193	2 S06192	tumor necrosis fac
13	619.5	76.1	235	2 JU0029	tumor necrosis fac
14	258.5	31.8	197	1 JH0309	lymphotoxin - bovi
15	250.5	30.8	204	1 S24641	tumor necrosis fac
16	247.5	30.4	204	1 S17289	tumor necrosis fac
17	238	29.2	202	1 JN0869	tumor necrosis fac
18	236.5	29.1	202	1 B27303	tumor necrosis fac
19	213.5	26.2	205	1 QWHUX	lymphotoxin beta -
20	173	21.3	244	2 A46066	fas ligand - rat
21	166.5	20.5	278	2 A49266	fas ligand - mouse
22	161.5	19.8	279	2 A53062	fas ligand - human
23	149	18.3	281	2 I38707	lymphotoxin-beta -
24	143	17.6	306	2 I49139	CD40 ligand - huma
25	129	15.8	261	2 I53476	CD40 ligand - mouse
26	127	15.6	260	2 S21738	CD40 ligand - bovi
27	116	14.3	261	2 S53090	probable tail comp
28	80	9.8	1560	2 T09202	hypothetical prote
29	77.5	9.5	675	2 E75393	

## RESULT 1

## QWHUN

tumor necrosis factor alpha precursor [validated] - human  
N;Alternate names: cachectin; TNFA

C;Species: Homo sapiens (man)

C;Date: 28-Aug-1985 #sequence revision 28-Aug-1985 #text change 09-Jul-2004

C;Accession: A93585; S36153; A93351; A44189; B61478; I53311; S62610; I54522; A01646; B2

R;Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica, I.

Nucleic Acids Res. 13, 6361-6373, 1985

A;Title: Human lymphotoxin and tumor necrosis factor genes: structure, homology and chr

A;Reference number: A93585; MUID:86016093; PMID:2995927

A;Accession: A93585

A;Molecule type: DNA

A;Residues: 1-233 <NED>

A;Cross-references: UNIPROT:P01375; UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:93

R;Iris, F.J.M.; Bougueleret, L.; Prieur, S.; Caterina, D.; Primas, G.; Perrot, V.; Jurk

Nature Genet. 3, 137-145, 1993

A;Title: Dense Alu clustering and a potential new member of the NFkappaB family within

A;Reference number: S36152; MUID:93272029; PMID:8499947

A;Accession: S36153

A;Status: nucleic acid sequence not shown; translation not shown

A;Molecule type: DNA

A;Residues: 1-233 <IRI>

A;Cross-references: UNIPARC:UPI000000D745; EMBL:Z15026; NID:937211; PIDN:CAA78745.1; PI

A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1992

R;Pennica, D.; Nedwin, G.E.; Hayflick, J.S.; Seeburg, P.H.; Derynck, R.; Palladino, M.A

Nature 312, 724-729, 1984

A;Title: Human tumour necrosis factor: precursor structure, expression and homology to

A;Reference number: A93351; MUID:85086244; PMID:6392892

A;Accession: A93351

A;Molecule type: mRNA

A;Residues: 1-233 <PEN>

A;Cross-references: UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:937209; PIDN:CAA26

A;Note: this protein was isolated from the monocyte-like cell line HL-60 from a promyel

R;Wang, A.M.; Creasey, A.A.; Ladner, M.B.; Lin, L.S.; Strickler, J.; Van Arsdel, J.N.;

Science 228, 149-154, 1985

A;Title: Molecular cloning of the complementary DNA for human tumor necrosis factor.

A;Reference number: A44189; MUID:85142190; PMID:3856324

A;Accession: A44189

A;Molecule type: mRNA

A;Residues: 1-62, 'S', 64-233 <WAN>

A;Cross-references: UNIPARC:UPI000002FB8A; GB:M10988; NID:9339737; PIDN:AAA61198.1; PID

R;Fukuda, S.; Ando, S.; Sanou, O.; Tanai, M.; Masaki, N.; Nakamura, K.I.; A

Lymphokine Res. 7, 175-185, 1988

A;Title: Simultaneous production of natural human tumor necrosis factor-alpha, -beta an

A;Reference number: A61478; MUID:88301617; PMID:2841543

A;Accession: B61478

A;Molecule type: protein

A;Residues: 83-102; 109-119; 121-128, 'X', 130-131; 142-144, 'X', 146, 'XXX', 150-152; 159-174; 18

A;Cross-references: UNIPARC:UPI00001735C7; UNIPARC:UPI00001735C8; UNIPARC:UPI00001735C9

R;Marmenout, A.; Franssen, L.; Tavernier, J.; Van Der Heyden, J.; Tizard, R.; Kawashima,

Eur. J. Biochem. 152, 515-522, 1985



A:Title: Molecular cloning and expression of human tumor necrosis factor and comparison  
A:Reference number: I53311, MUID:86030296; PMID:3932069  
A:Accession: I53311  
A:Status: translated from GB/EMBL/DBDJ  
A:Molecule type: DNA  
A:Residues: 1-233 <MAR>  
A:Cross-references: UNIPARC:UPI000000D745; GB:M26331; NID:G339763; PIDN:AAA36758.1; PID:  
A:Experimental source: U-937 cells  
R:Kakura-Yamamoto, R.; Yamamoto, S.; Fukuda, S.; Kurimoto, M.  
Eur. J. Biochem. 235, 431-437, 1996  
A:Title: O-Glycosylated species of natural human tumor-necrosis factor-alpha.  
A:Reference number: S62610; MUID:96202967; PMID:8631363  
A:Accession: S62610  
A:Molecule type: protein  
A:Residues: 77-99 <RA>  
A:Cross-references: UNIPARC:UPI00001735CD  
R:D'Alfonso, S.; Richiardi, P.M.  
Immunogenetics 39, 150-154, 1994  
A:Title: A polymorphic variation in a putative regulation box of the TNFA promoter region  
A:Reference number: I54522; MUID:94102809; PMID:7903959  
A:Accession: I54522  
A:Status: preliminary; translated from GB/EMBL/DBDJ  
A:Molecule type: DNA  
A:Residues: 1-8 <DAL>  
A:Cross-references: UNIPARC:UPI00001735CE; GB:S68530; NID:G544751  
R:Stevenson, F.T.; Bursten, S.L.; Locksley, R.M.; Lovett, D.H.  
J. Exp. Med. 176, 1053-1062, 1992  
A:Title: Myristyl acylation of the tumor necrosis factor alpha precursor on specific lys  
A:Reference number: A59163; MUID:93018920; PMID:1402651  
A:Contents: annotation; identification of myristylated lysines  
R:Aggarwal, B.B.; Kohr, W.J.; Haas, P.E.; Moffat, B.; Spencer, S.A.; Henzel, W.J.; Bring  
J. Biol. Chem. 260, 2345-2354, 1985  
A:Title: Human tumor necrosis factor. Production, purification, and characterization.  
A:Reference number: A92511; MUID:85130374; PMID:3871770  
A:Contents: annotation; disulfide bond  
C:Comment: Secreted from mitogen-activated macrophages within 4-24 hours after induction  
out detriment to normal cells. It can also act synergistically with interferon gamma to  
C:Comment: TNF-alpha and -beta (lymphotoxin) are the products of different genes closely  
ut are produced by different cell types and have different induction kinetics.  
C:Genetics:  
A:Gene: GDB:TNF; TNFA  
A:Cross-references: GDB:120441; OMIM:191160  
A:Map position: 6p21.3-6p21.3  
A:Introns: 62/3; 78/1; 94/1  
C:Complex: homotrimer  
C:Superfamily: tumor necrosis factor  
C:Keywords: cytokine; cytotoxin; glycoprotein; homotrimer; lipoprotein; lymphokine; mac  
F:1-76/Domain: propeptide #status predicted <PRO>  
F:77-233/Product: tumor necrosis factor #status experimental <MAT>  
F:19,20/Binding site: myristate (Lys) (covalent) #status experimental  
F:81/Binding site: carbohydrate (Ser) (covalent) (partial) #status experimental  
F:145-177/Disulfide bonds: #status experimental

Query Match 95.7%; Score 779; DB 1; Length 233;  
Best Local Similarity 96.2%; Pred. No. 4.9e-72;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVPSDGLYLIYS 60  
DB 77 VRSSRTPSDKPAHVANPQAEGLQWLNRRANALLANGVELRDNLQVPSDGLYLIYS 136

QY 61 QVLFSGQGCPSHVLTHLTISRIVSYQTPVNLISAIRSPCORETPEGAANPWYEPYIL 120  
DB 137 QVLFSGQGCPSHVLTHLTISRIVSYQTPVNLISAIRSPCORETPEGAANPWYEPYIL 196

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIALL 157  
DB 197 GGVFQLEKGDRLSAEINRPDYLDFAESGVYFGIALL 233

RESULT 2  
S22052  
tumor necrosis factor alpha precursor - baboon

C:Species: Papio sp. (baboon)  
C:Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C:Accession: S22052  
R:Sanjanwala, M.; Edwards, A.  
A:Description: Baboon Tumor Necrosis Factor Derived from Sequences of Genomic DNA.  
A:Reference number: S22052  
A:Accession: S22052  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-233 <SAN>  
A:Cross-references: UNIPROT:P33620; UNIPARC:UPI00001370C4; EMBL:X62141; NID:G38159; PID:  
C:Genetics:  
A:Introns: 62/3; 78/1; 94/1  
C:Superfamily: tumor necrosis factor  
C:Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein  
F:19,20/Binding site: myristate (Lys) (covalent) #status predicted  
F:81/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:145-177/Disulfide bonds: #status predicted

Query Match 94.8%; Score 772; DB 1; Length 233;  
Best Local Similarity 95.5%; Pred. No. 2.5e-71;  
Matches 150; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVPSDGLYLIYS 60  
DB 77 VRSSRTPSDKPAHVANPQAEGLQWLNRRANALLANGVELRDNLQVPSDGLYLIYS 136

QY 61 QVLFSGQGCPSHVLTHLTISRIVSYQTPVNLISAIRSPCORETPEGAANPWYEPYIL 120  
DB 137 QVLFSGQGCPSHVLTHLTISRIVSYQTPVNLISAIRSPCORETPEGAANPWYEPYIL 196

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIALL 157  
DB 197 GGVFQLEKGDRLSAEINRPDYLDFAESGVYFGIALL 233

RESULT 3  
S11688  
tumor necrosis factor alpha precursor - cat  
C:Species: Felis silvestris catus (domestic cat)  
C:Date: 21-Nov-1993 #sequence\_revision 10-Nov-1995 #text\_change 09-Jul-2004  
C:Accession: S11688  
R:McGraw, R.A.; Coffee, B.W.; Otto, C.M.; Drews, R.T.; Rawlings, C.A.  
Nucleic Acids Res. 18, 5563, 1990  
A:Title: Gene sequence of feline tumor necrosis factor alpha.  
A:Reference number: S11688; MUID:91016860; PMID:2216740  
A:Accession: S11688  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-233 <MCG>  
A:Cross-references: UNIPROT:P19101; UNIPARC:UPI00001370BE; EMBL:X54000; NID:G1084; PID:  
C:Genetics:  
A:Introns: 62/3; 78/1; 94/1  
C:Superfamily: tumor necrosis factor  
C:Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein  
F:19,20/Binding site: myristate (Lys) (covalent) #status predicted  
F:81/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:145-177/Disulfide bonds: #status predicted

Query Match 87.5%; Score 712; DB 2; Length 233;  
Best Local Similarity 88.5%; Pred. No. 3.4e-65;  
Matches 139; Conservative 6; Mismatches 12; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVPSDGLYLIYS 60  
DB 77 LRSSRTPSDKPAHVANPQAEGLQWLNRRANALLANGVELTDNLQVPSDGLYLIYS 136

QY 61 QVLFSGQGCPSHVLTHLTISRIVSYQTPVNLISAIRSPCORETPEGAANPWYEPYIL 120  
DB 137 QVLFSGQGCPSHVLTHLTISRIVSYQTPVNLISAIRSPCORETPEGAANPWYEPYIL 196

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIALL 157







Best Local Similarity 75.2%; Pred. No. 1.2e-56; Matches 118; Conservative 21; Mismatches 17; Indels 1; Gaps 1;	
Qy	1 VRSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db	80 LRSSQNSDKPVAHVANHQVDEQLWLSRGANALLANGMDLKDNLQVLPADGLYLIYS 139
Qy	61 QVLFSGQGCPSHTVLLTHTISRIVSYQTVPVNLLSAIRSPCQRETPEGAENPWYEPYIL 120
Db	140 QVLFKGGCC-SSVYLLTHTVSRFAVSIEDKVNLSAISKPCPKETPGSELKPWYEPYIL 198
Qy	121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db	199 GGVFQLEKGRLLSAEVLNPKYLDITFASGQVYFGVIAL 235
RESULT 12	
S06192	
tumor necrosis factor alpha precursor - goat (fragment)	
N;Alternate names: cachectin; TNF alpha	
C;Species: Capra aegagrus hircus (domestic goat)	
C;Date: 28-Feb-1990 #sequence_revision 20-Feb-1990 #text_change 09-Jul-2004	
C;Accession: S06192; S41867	
R;Goldstein, I.M.; Henner, D.; Talhouk, A.	
submitted to the EMBL Data Library, March 1989	
A;Reference number: S06192	
A;Accession: S06192	
A;Molecule type: mRNA	
A;Residues: 1-193 <GOL>	
A;Cross-references: UNIPROT:P13296; UNIPARC:UPI000016C3FD; EMBL:X14828; NID:g992; PIDN:Q	
R;Rimstad, E.	
submitted to the EMBL Data Library, January 1994	
A;Reference number: S41867	
A;Accession: S41867	
A;Status: preliminary	
A;Molecule type: mRNA	
A;Residues: 35-38,'S',40-78,'A',80-88,'N',90-114,'Q',116-123,'D',125-144,'G',145-173,'L'	
A;Cross-references: UNIPARC:UPI000016C3FE; EMBL:X77317; NID:g452607; PIDN:CAA54523.1; PI	
C;Superfamily: tumor necrosis factor	
C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage; membrane protein	
F;42/Binding site: carbohydrate (Ser) (covalent) #status predicted	
F;106-138/Disulfide bonds: #status predicted	
Query Match 76.7%; Score 624.5; DB 2; Length 193;	
Best Local Similarity 78.3%; Pred. No. 2.4e-56;	
Matches 123; Conservative 14; Mismatches 19; Indels 1; Gaps 1;	
Qy	1 VRSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db	38 LRSSQANSKPKVAHVANISAPQLRWGDSYANALKANGVELKDNLQVVTDLGLYLIYS 97
Qy	61 QVLFSGQGCPSHTVLLTHTISRIVSYQTVPVNLLSAIRSPCQRETPEGAENPWYEPYIL 120
Db	98 QVLFGRHGCPSPTFLTHTISRIVSYQTQVNLISAISKPCPKETPE-AEAKPWYEPYIQ 156
Qy	121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db	157 GGVFQLEKGRLLSAEINQPEYLDFAESGQVYFGIALL 193
RESULT 13	
JU0029	
tumor necrosis factor alpha precursor - rat	
N;Alternate names: cachectin; TNF alpha	
C;Species: Rattus norvegicus (Norway rat)	
C;Date: 07-Jun-1990 #sequence_revision 07-Jun-1990 #text_change 09-Jul-2004	
C;Accession: JU0029; JN0868; S21674	
R;Shirai, T.; Shimizu, N.; Horiguchi, S.; Ito, H.	
Agric. Biol. Chem. 53, 1733-1736, 1989	
A;Title: Cloning and expression in Escherichia coli of the gene for rat tumor necrosis f	
A;Reference number: JU0029	
A;Accession: JU0029	
A;Molecule type: DNA	

C:keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage  
F:1-26/Domain: signal sequence #status predicted <SIG>  
F:27-197/Product: lymphotoxin #status predicted <MAT>

Query Match 31.8%; Score 258.5; DB 1; Length 197;  
Best Local Similarity 40.0%; Pred. No. 6.4e-19;  
Matches 60; Conservative 21; Mismatches 58; Indels 11; Gaps 4;

QY 12 PVAVVNPQAGCQQLWLNRRANALLANGVELDQNLVVPSEGLYLYISQVLFSGGCGCP- 70  
DB 55 PAAHLVGDPSAQDSLWRANTDRAFLRHGFSLSNNSLVPSGLYFYVSQVWFSGGCGSP 114  
QY 71 ---STHVLTLHTTISRIVASYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYLGGVFOLE 127  
DB 115 KAVPTPLYLAHEVOLFPSSQYSHVPLLSAQKVC--PGPQG----PWRSVYQGAFLLT 168  
QY 128 PGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
DB 169 QGDQLSTHTDGIHLLSPS-SVFFGAFAL 197

RESULT 15  
S24641  
Lymphotoxin - bovine  
C:Species: Bos primigenius taurus (cattle)  
C:Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C:Accession: I46046; S24641  
R:Clutds, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.  
Cytokine 5, 336-341, 1993  
A:Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and tu  
A:Reference number: I46046; MUID:94083525; PMID:8260599  
A:Accession: I46046  
A>Status: preliminary; translated from GB/EMBL/DDBJ  
A:Molecule type: DNA  
A:Residues: 1-204 <CL2>  
A:Cross-references: UNIPROT:Q06600; UNIPARC:UPI00001370CA; EMBL:Z14137; NID:g796; PIDN:Q  
C:Genetics:  
A:Introns: 32/3; 68/1  
C:Superfamily: tumor necrosis factor

Query Match 30.8%; Score 250.5; DB 1; Length 204;  
Best Local Similarity 38.7%; Pred. No. 4.4e-18;  
Matches 58; Conservative 22; Mismatches 59; Indels 11; Gaps 4;

QY 12 PVAVVNPQAGCQQLWLNRRANALLANGVELDQNLVVPSEGLYLYISQVLFSGGCGC-- 69  
DB 62 PAAHLVGDPSQDSLWRANTDRAFLRHGFSLSNNSLVPSGLYFYVSQVWFSGGCGFP 121  
QY 70 --PSTHVLTLHTTISRIVASYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYLGGVFOLE 127  
DB 122 RATPTPLYLAHEVOLFPSPQYFHVPLLSAQKVC--PGPQG----PWRSVYQGAFLLT 175  
QY 128 PGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
DB 176 RGDQLSTHTDGIHLLSPS-SVFFGAFAL 204

Search completed: May 5, 2006, 11:27:50  
Job time : 20 secs

**THIS PAGE BLANK (USPTO)**



GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:53 ; Search time 53.5 Seconds  
(without alignments)  
2070.429 Million cell updates/sec

Title: US-10-668-178-3

Perfect score: 814

Sequence: 1 VRSSKRTSDMPVHVANP.....RPDYLDFABSGVYFGIIAL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Uniprot 05.80.\*

1: uniprot\_sprot.\*

2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	779	95.7	233	1	TNFA_HUMAN
2	779	95.7	233	2	Q55TB3_HUMAN
3	772	94.8	233	1	TNFA_PASP
4	770	94.6	232	1	TNFA_PANTR
5	761	93.5	233	1	TNFA_MACMU
6	758	93.1	233	1	TNFA_MACFA
7	757	93.0	233	1	TNFA_PAPHU
8	754	92.6	233	1	TNFA_PAPAN
9	744	91.4	149	2	Q97543_AOTNA
10	738	90.7	233	1	TNFA_CANFA
11	731	89.8	233	1	TNFA_FELCA
12	708	87.0	233	1	TNFA_SAISC
13	702	86.2	149	2	Q97538_AOTVO
14	702	86.2	149	2	Q97T68_AOTNI
15	697	85.6	234	1	TNFA_HORSE
16	691	84.9	217	2	Q9BEG0_CYCDI
17	687	84.4	217	2	Q9BEG1_BRATR
18	679	83.4	233	1	TNFA_DELLE
19	677.5	83.2	232	1	TNFA_PIG
20	661	81.2	233	1	TNFA_TURTR
21	652	80.1	217	2	Q9BEP4_CABUN
22	649	79.7	138	2	Q9TTG7_AOTLE
23	641	78.7	234	1	TNFA_CAPHI
24	638	78.4	234	2	Q53ZM5_CAPHI
25	637.5	78.3	234	1	TNFA_CAVPO
26	635	78.0	216	2	Q9BEC4_TALEU
27	634.5	77.9	235	1	TNFA_MOUSE
28	633.5	77.8	235	1	TNFA_RABIT
29	633	77.8	234	2	Q539C2_TUPTA
30	632	77.6	229	1	TNFA_CEREL
31	631	77.5	233	1	TNFA_BOVIN

32	631	77.5	233	1	TNFA_BUBBU	P59693 bubalus bub
33	631	77.5	234	1	TNFA_BOSIN	P59684 bos indicus
34	629	77.3	234	1	TNFA_SHEEP	P23383 ovis aries
35	628.5	77.2	235	1	TNFA_PERLE	P36939 peromyscus
36	628.5	76.6	235	2	Q5W9H9_MERUN	Q5W9H9 meriones un
37	622.5	76.5	232	2	Q80XAA_PERMA	Q80XAA peromyscus
38	619.5	76.1	235	1	TNFA_RAT	P16599 rattus norv
39	619.5	76.1	235	2	Q6EE11_RAT	Q6EE11 rattus norv
40	617	75.8	233	1	TNFA_CAMBA	Q75N23 camelus bac
41	617	75.8	233	1	TNFA_LAMGL	P59694 lama glama
42	611.5	75.1	156	2	Q91ZL4_SIGHI	Q91ZL4 sigmodon hi
43	604.5	74.3	233	1	TNFA_MARMO	Q35734 marmota mon
44	604.5	74.3	233	2	Q6X658_MARMO	Q6X658 marmota mon
45	601.5	73.9	216	2	Q9BEC9_OCHPR	Q9BEC9 ochotona pr

## ALIGNMENTS

### RESULT 1

TNFA\_HUMAN STANDARD; PRT; 233 AA.  
AC P01375; O43647; Q9P1Q2; Q9UIV3;  
DT 21-JUL-1986 (Rel. 01, Created)  
DT 21-JUL-1986 (Rel. 01, Last sequence update)  
DT 13-SEP-2005 (Rel. 48, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
GN Name=TNF; Synonyms=TNFA, TNFSF2;  
OS Homo sapiens (Human)  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo  
OX NCBJ\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=87217060; PubMed=3555974;  
RA Nedospasov S.A., Shakhov A.N., Turetskaya R.L., Mett V.A.,  
RA Azizov M.M., Georgiev G.P., Korobko V.G., Dobrynin V.N.,  
RA Filippov S.A., Bystrov N.S., Boldyreva E.F., Chuvpilo S.A.,  
RA Chumakov A.M., Shingarova L.N., Ovchinnikov Y.A.;  
RT "Tandem arrangement of genes coding for tumor necrosis factor (TNF-  
alpha) and lymphotoxin (TNF-beta) in the human genome.";  
RN Cold Spring Harb. Symp. Quant. Biol. 51:611-624(1986).  
[2]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=85086244; PubMed=6392892;  
RX Pennica D., Nedwin G.E., Hayflick J.S., Seeburg P.H., Derynck R.,  
RA Palladino M.A., Kohr W.J., Aggarwal B.B., Goeddel D.V.;  
RT "Human tumor necrosis factor: precursor structure, expression and  
homology to lymphotoxin";  
RN Nature 312:724-729(1984).  
[3]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=85137898; PubMed=3883195;  
RX Shirai T., Yamaguchi H., Ito H., Todd C.W., Wallace R.B.;  
RT "Cloning and expression in Escherichia coli of the gene for human  
tumor necrosis factor";  
RN Nature 313:803-806(1985).  
[4]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=86016093; PubMed=2995927;  
RX Nedwin G.E., Naylor S.L., Sakaguchi A.Y., Smith D.H.,  
RA Jarrett-Nedwin J., Pennica D., Goeddel D.V., Gray P.W.;  
RT "Human lymphotoxin and tumor necrosis factor genes: structure,  
homology and chromosomal localization.";  
RN Nucleic Acids Res. 13:6361-6373(1985).  
[5]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=85142190; PubMed=3856324;  
RX Wang A.M., Cressey A.A., Ladner M.B., Lin L.S., Strickler J.,  
van Arsdel J.N., Yamamoto R., Mark D.F.;

RT "Molecular cloning of the complementary DNA for human tumor necrosis factor.";  
 RT Science 228:149-154(1985).  
 RN [16]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=86030296; PubMed=3932069;  
 RA Marmenout A., Fransen L., Tavernier J., van der Heyden J., Tizard R.,  
 RA Kawashima E., Shaw A., Johnson M.J., Semon D., Mueller R.,  
 RA Ruysschaert M.R., van Vliet A., Fiers W.;  
 RT "Molecular cloning and expression of human tumor necrosis factor and  
 RT comparison with mouse tumor necrosis factor.";  
 RL Eur. J. Biochem. 152:515-522(1985).  
 RN [7]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=93272029; PubMed=8499947;  
 RA Iris F.J.M., Bougueleret L., Prieur S., Caterina D., Primas G.,  
 RA Perrot V., Jurka J., Rodriguez-Tome P., Claverie J.-M., Dausset J.,  
 RA Cohen D.;  
 RT "Denise Alu clustering and a potential new member of the NF kappa B  
 RT family within a 90 kilobase HLA class III segment.";  
 RL Nat. Genet. 3:137-145(1993).  
 RN [8]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=99218514; PubMed=10202016;  
 RA Neville M.J., Campbell R.D.;  
 RA "A new member of the Ig superfamily and a V-ATPase G subunit are among  
 RT the predicted products of novel genes close to the TNF locus in the  
 RT human MHC.";  
 RL J. Immunol. 162:4745-4754(1999).  
 RN [9]  
 RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].  
 RX PubMed=14656967; DOI=10.1101/gr.1736803;  
 RA Xie T., Rowen L., Aguado B., Ahearn M.E., Madan A., Qin S.,  
 RA Campbell R.D., Hood L.;  
 RT "Analysis of the gene-dense major histocompatibility complex class III  
 RT region and its comparison to mouse.";  
 RL Genome Res. 13:2621-2636(2003).  
 RN [10]  
 RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].  
 RA Shiina S., Tamiya G., Oka A., Inoko H.;  
 RT "Homo sapiens 2,229,817bp genomic DNA of 6p21.3 HLA class I region.";  
 RL Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.  
 RN [11]  
 RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].  
 RA Shiina T., Ota M., Katsuyama Y., Hashimoto N., Inoko H.;  
 RT "Genome diversity in HLA: a new strategy for detection of genetic  
 RT polymorphisms in expressed genes within the HLA class III and class I  
 RT regions.";  
 RL Submitted (JUL-2002) to the EMBL/GenBank/DBJ databases.  
 RN [12]  
 RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].  
 RA Rieder M.J., Carrington D.P., Chung M.-W., Lee K.L., Poel C.L., Yi Q.,  
 RA Nickerson D.A.;  
 RT "SeattlesNPs. NHLBI HL6682 program for genomic applications, UW-  
 RT PHRC, Seattle, WA (URL: <http://pga.gs.washington.edu>);  
 RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.  
 RN [13]  
 RP NUCLEOTIDE SEQUENCE [GENOMIC DNA], AND VARIANT LEU-84.  
 RA Rieder M.J., Livingston R.J., Daniels M.R., Montoya M.A., Chung M.-W.,  
 RA Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D.,  
 RA Schackwitz W.S., Sherwood J.K., Witrak L.A., Nickerson D.A.;  
 RT "NIHS-SNPs, environmental genome project, NIHS ES15478, Department  
 RT of Genome Sciences, Seattle, WA (URL: <http://egp.gs.washington.edu>).";  
 RL Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.  
 RN [14]  
 RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].  
 RC TISSUE=blood;  
 RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;  
 RA Strausberg K.L., Feingold E.A., Grouse L.H., Derge J.G.,  
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,  
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
 RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,  
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullany S.J.,  
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
 RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahy J., Helton E., Kettaman M., Madan A., Rodrigues S., Sanchez A.,  
 RA Whiting M., Young A.C., Shevchenko Y., Bouffard G.G.,  
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,  
 RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,  
 RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 RT and mouse cDNA sequences.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
 RN [15]  
 RP NUCLEOTIDE SEQUENCE OF 77-233.  
 RA Jang J.S., Kim B.E.;  
 RL Submitted (JAN-1998) to the EMBL/GenBank/DBJ databases.  
 RN [16]  
 RP NUCLEOTIDE SEQUENCE OF 84-214.  
 RC TISSUE=Prostatic carcinoma;  
 RL Shao C., Yan W., Zhu F., Yue W., Chai Y., Zhao Z., Wang C.;  
 RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.  
 RN [17]  
 RP PHOSPHORYLATION (MEMBRANE FORM).  
 RX MEDLINE=96170872; PubMed=8597870;  
 RA Pocsik E., Duda E., Wallach D.;  
 RT "Phosphorylation of the 26 kDa TNF precursor in monocytic cells and in  
 RT transfected HeLa cells.";  
 RL J. Inflamm. 45:152-160(1995).  
 RN [18]  
 RP PHOSPHORYLATION BY CK1, AND DEPHOSPHORYLATION  
 RX MEDLINE=99221847; PubMed=10205166; DOI=10.1093/emboj/18.8.2119;  
 RA Watts A.D., Hunt N.H., Wanigasakara Y., Bloomfield G., Wallach D.,  
 RA Roufogalis B.D., Chaudhri G.;  
 RT "A casein kinase I motif present in the cytoplasmic domain of members  
 RT of the tumor necrosis factor ligand family is implicated in 'reverse  
 RT signalling'.";  
 RL EMBO J. 18:2119-2126(1999).  
 RN [19]  
 RP MUTAGENESIS.  
 RX MEDLINE=91184128; PubMed=2009860;  
 RA Ostade X.V., Tavernier J., Prange T., Fiers W.;  
 RT "Localization of the active site of human tumor necrosis factor  
 RT (hTNF) by mutational analysis.";  
 RL EMBO J. 10:827-836(1991).  
 RN [20]  
 RP MYRISTOYLATION.  
 RX MEDLINE=93018820; PubMed=1402651; DOI=10.1084/jem.176.4.1053;  
 RA Stevenson F.T., Bursten S.L., Locksley R.M., Lovett D.H.;  
 RT "Myristyl acylation of the tumor necrosis factor alpha precursor on  
 RT specific lysine residues.";  
 RL J. Exp. Med. 176:1053-1062(1992).  
 RN [21]  
 RP CLEAVAGE BY ADAM17.  
 RX MEDLINE=97186575; PubMed=9034191;  
 RA Moss M.L., Jin S.-L.C., Milla M.E., Burkhardt W., Carter H.L.,  
 RA Chen W.-J., Clay W.C., Didebury J.R., Haessler D., Hoffman C.R.,  
 RA Kost T.A., Lambert M.H., Leesnitzer M.A., McCauley P., McGeehan G.,  
 RA Mitchell J., Moyer M., Pabel G., Rocque W., Overton L.K., Schoenen F.,  
 RA Seaton T., Su J.-L., Warner J., Willard D., Becherer J.D.;  
 RT "Cloning of a disintegrin metalloproteinase that processes precursor  
 RT tumour-necrosis factor-alpha.";  
 RL Nature 385:733-736(1997).  
 RN [22]  
 RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).  
 RX MEDLINE=89159409; PubMed=2922050; DOI=10.1038/338225a0;  
 RA Jones E.Y., Stuart D.I., Walker N.P.;  
 RT "Structure of tumour necrosis factor.";  
 RL Nature 338:225-228(1989).  
 RN [23]  
 RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).



```

SQ SEQUENCE 233 AA; 25557 MW; 455360B48DC74173 CRC64;
Query Match 94.8%; Score 772; DB 1; Length 233;
Best Local Similarity 95.5%; Pred. No. 1.3e-69;
Matches 150; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
DB 77 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 136

QY 61 QVLFSGQGCPSHTVLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPGAEANPWYEPYIL 120
DB 137 QVLFSGQGCPSHTVLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPGAEANPWYEPYIL 196

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
DB 197 GGVFQLEKGRLSAEINRPDYLDFAESGQVYFGIIAL 233

RESULT 4
TNFA_PANTR
ID TNFA_PANTR STANDARD; PRT; 232 AA.
AC Q8H2D9;
DT 10-OCT-2003 (Rel. 42, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name=TNF; Synonyms=TNFA, TNFSF2;
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Pan.
NCBI_TaxID=9598;
OX [1]
RN NUCLEOTIDE SEQUENCE.
RP MEDLINE=22381002; PubMed=12493009;
RX DOI=10.1034/j.1600-065X.2002.19008.x;
RA Kulski J.K., Shiina T., Anzai T., Kohara S., Inoko H.;
RT "Comparative genomic analysis of the MHC: the evolution of class I
RT duplication blocks, diversity and complexity from shark to man.";
RL Immunol. Rev. 190:95-122(2002).
RN NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX MEDLINE=22709134; PubMed=12799463; DOI=10.1073/pnas.1230533100;
RA Anzai T., Shiina T., Kimura N., Yanagiya K., Kohara S., Shigenari A.,
RA Yamagata T., Kulski J.K., Naruse T.K., Fujimori Y., Fukuzumi Y.,
RA Yamazaki M., Tashiro H., Iwamoto C., Umehara Y., Inanishi T.,
RA Meyer A., Ikeo K., Gojobori T., Bahram S., Inoko H.;
RT "Comparative sequencing of human and chimpanzee MHC class I regions
RT unveils insertions/deletions as the major path to genomic
RT divergence.";
RL Proc. Natl. Acad. Sci. U.S.A. 100:7708-7713(2003).
RN [3]
RP NUCLEOTIDE SEQUENCE OF 33-186.
RA O'Huigin C., Tichy H., Klein J.;
RT "Molecular evolution in higher primates; gene specific and organism
RT specific characteristics.";
RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia. Under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation (By similarity).
CC -!- SUBUNIT: Homotrimer (By similarity).
CC -!- SUBCELLULAR LOCATION: type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -!- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -!- PTM: The membrane form, but not the soluble form, is
```

```

CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC
CC EMBL; AB054536; BAB3882.1; -; Genomic DNA.
CC EMBL; BA000041; BAC78157.1; -; Genomic DNA.
CC EMBL; AY091964; AAM76582.1; -; Genomic DNA.
CC HSP; P01375; 4TSV.
CC SMR; Q8H2D9; 81-232.
CC InterPro; IPR006053; TNF abc.
CC InterPro; IPR002959; TNF_alpha.
CC InterPro; IPR006052; TNF_family.
CC InterPro; IPR003636; TNF_subf.
CC PANTHER; PTHR11471:SF4; TNF_alpha; 1.
CC Pfam; PF00229; TNF; 1.
CC PRINTS; PR01234; TNECROSISFCT.
CC PRINTS; PR01235; TNFALPHA.
CC ProDom; PD02012; TNF_subf; 1.
CC PROSITE; PS00251; TNF_1; 1.
CC PROSITE; PS00049; TNF_2; 1.
CC Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
KW Tumor necrosis factor, membrane form (By
FT CHAIN 1 232
FT similarity).
FT CHAIN 77 232
FT similarity).
FT TOPO_DOM 1 34
FT TRANSMEM 35 57
FT Cytoplasmic (Potential).
FT Signal-anchor for type II membrane
FT protein (By similarity).
FT SITE 58 232
FT 76 77
FT Extracellular (Potential).
FT MOD_RES 2 2
FT Phosphoserine (by CK1) (By similarity).
FT DISULFID 144 176
FT 77
FT CONFLICT 77
FT G -> VR (in Ref. 3).
SQ SEQUENCE 232 AA; 25446 MW; E4D71B19C6AED03 CRC64;
Query Match 94.6%; Score 770; DB 1; Length 232;
Best Local Similarity 96.1%; Pred. No. 2e-69;
Matches 149; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 3 SSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYSQV 62
DB 78 SSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYSQV 137

QY 63 LFSGQGCPSHTVLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPGAEANPWYEPYILGG 122
DB 138 LFSGQGCPSHTVLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPGAEANPWYEPYILGG 197

QY 123 VFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
DB 198 VFQLEKGRLSAEINRPDYLDFAESGQVYFGIIAL 232

RESULT 5
TNFA_MACMU
ID TNFA_MACMU STANDARD; PRT; 233 AA.
AC P48094; Q8TM21; Q8H2D6;
DT 01-FEB-1996 (Rel. 33, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name=TNF; Synonyms=TNFA, TNFSF2;
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
```

```

OC Cercopithecidae; Cercopithecinae; Macaca.
OX NCBI_TaxID=9544;
RN [1]
RP NUCLEOTIDE SEQUENCE [MRNA]
RX MEDLINE=96003435; PubMed=7561102;
RA Villingner F.J., Brar S.S., Wayne A.E., Chikkala N., Ansari A.A.;
RT "Comparative sequence analysis of cytokine genes from human and
RL nonhuman primates.";
RN J. Immunol. 155:3946-3954(1995).
[2]
RN NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX PubMed=15269276; DOI=10.1093/molbev/msh216;
RA Kuleski J.K., Anzai T., Shiina T., Inoko H.;
RT "Rhesus macaque class I duplicon structures, organization, and
RN evolution within the alpha block of the major histocompatibility
RL complex.";
RN Mol. Biol. Evol. 21:2079-2091(2004).
[3]
RN NUCLEOTIDE SEQUENCE [GENOMIC DNA] OF 33-197.
RA O'Huigin C., Tichy H., Klein J.;
RT "Molecular evolution in higher primates; gene specific and organism
RN specific characteristics";
RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia, under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation.
CC -!- SUBUNIT: Homotrimer (By similarity).
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -!- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -!- PTM: The membrane form, but not the soluble form, is
CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC
CC -----
CC EMBL; U19850; AAA86712.1; -; mRNA.
CC EMBL; AB128049; BAD69724.1; -; Genomic DNA.
CC EMBL; AY091967; AAM76585.1; -; Genomic DNA.
CC HSSP; P01375; 4TSV
CC SMR; P48094; 82-233.
CC InterPro; IPR006053; TNF abc.
CC InterPro; IPR002959; TNF_alpha.
CC InterPro; IPR006052; TNF family.
CC InterPro; IPR003636; TNF_subf.
CC PANTHER; PTHR11471.SF4; TNF_alpha; 1.
CC Pfam; PF00229; TNF; 1.
CC PRINTS; PR01234; TNECROSISFCT.
CC PRINTS; PR01235; TNFALPHA.
CC ProDom; PD002012; TNF_subf; 1.
CC SMART; SM00207; TNF; 1.
CC PROSITE; PS00251; TNF_1; 1.
CC PROSITE; PSS0049; TNF_2; 1.
CC Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
KW CHAIN 1 233 Tumor necrosis factor, membrane form.
FT CHAIN 77 233 Tumor necrosis factor, soluble form.
FT CHAIN 1 35 Cytoplasmic (Potential).
FT TRANSEM 36 Signal-anchor for type II membrane
FT protein (Potential).
FT TOPO_DOM 57 233 Extracellular (Potential).
FT SITE_ 76 77 Cleavage (by ADAM17) (By similarity).
FT MOD_RES 2 2 Phosphoserine (by CK1) (By similarity).
FT

```

```

FT DISULFID 145 177 By similarity.
SQ SEQUENCE 233 AA; 25630 MW; 9FGF85050595FD59 CRC64;

Query Match          93.5%; Score 761; DB 1; Length 233;
Best Local Similarity 94.3%; Pred. No. 1.7e-68;
Matches 148; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 VRSSRTPTSDMPVAHVANPQAEGLQWLNRRANALLANGVELDNQLVVPSEGLYLIYS 60
DB 77 VRSSRTPTSDKPVAVANPQAEGLQWLNRRANALLANGVELDNQLVVPSEGLYLIYS 136

QY 61 QVLFSGQCPSSTHLLTHTISRIASVYQTPVLLSAIRSPCORETPEGAEANPWYEPYIL 120
DB 137 QVLFSGQCPSNHVLLTHTISRIASVYQTPVLLSAIRSPCORETPEGAEANPWYEPYIL 196

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157
DB 197 GGVFQLEKGRDLSAEINLPDYLDFAESGVYFGIIAL 233

RESULT 6
TNFA.MACFA
ID TNFA.MACFA STANDARD; PRT; 233 AA.
AC P79337;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
DE Name=TNF; Synonyms=TNFA, TNFSF2;
OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC Cercopithecidae; Cercopithecinae; Macaca.
OX NCBI_TaxID=9541;
RN [1]
RN NUCLEOTIDE SEQUENCE [MRNA].
RP TISSUE=Lymphocyte;
RA Tatum M.;
RT "Molecular cloning and expression of cynomolgus monkey TNF-alpha.";
RL Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia, under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation.
CC -!- SUBUNIT: Homotrimer (By similarity).
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -!- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -!- PTM: The membrane form, but not the soluble form, is
CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC
CC -----
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC EMBL; AB000513; BAA19131.1; -; mRNA.
CC HSSP; P01375; 4TSV.
CC SMR; P79337; 82-233.
CC InterPro; IPR006053; TNF abc.
CC InterPro; IPR002959; TNF_alpha.
CC InterPro; IPR006052; TNF family.
CC InterPro; IPR003636; TNF_subf.
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC
CC -----

```

DR PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 DR Pfam; PF00229; TNF; 1.  
 DR PRINTS; PRO1234; TNECROSISFCT.  
 DR PRINTS; PRO1235; TNFALPHA.  
 DR ProDom; PD002012; TNF subf; 1.  
 DR SMART; SM00207; TNF; 1.  
 DR PROSITE; PS00251; TNF 1; 1.  
 DR PROSITE; PS0049; TNF 2; 1.  
 KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 FT CHAIN 1 233  
 FT TOPO\_DOM 1 35  
 FT TOPO\_DOM 36 56  
 FT TRANSMEM 57 233  
 FT TOPO\_DOM 57 233  
 FT SITE 76 77  
 FT MOD\_RES 2 2  
 FT DISULFID 145 177  
 FT SEQUENCE 233 AA; 25558 MW; 6ABF2C3AB132C217 CRC64;  
 Query Match 93.1%; Score 758; DB 1; Length 233;  
 Best Local Similarity 93.6%; Pred. No. 3.3e-68;  
 Matches 147; Conservative 2; Mismatches 8; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDMVAHVANPQAEGLQWLNRRANALLANGVELDNQVVPSEGLYLIYS 60  
 DB 77 VRSSRTSPDKVAHVANPQAEGLQWLNRRANALLANGVELDNQVVPSEGLYLIYS 136  
 QY 61 QVLFSGQGCPSTHLLTHTISRIASVYQTPVNLLSAIRSPCQRETPEGAENPWYEPIYL 120  
 DB 137 QVLFKGQGCPSNHVLLTHTISRIASVYQTKVNLLSAIRSPCQRETPEGAENPWYEPIYL 196  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
 DB 197 GGVFQLEKGRDLSAEINLPDYLDFAESGVYFGIIAL 233

## RESULT 7

TNFA\_PAPHU  
 ID TNFA\_PAPHU STANDARD; PRT; 233 AA.  
 AC 077510;  
 DT 15-DEC-1998 (Rel. 37, Created)  
 DT 15-DEC-1998 (Rel. 37, Last sequence update)  
 DT 13-SEP-2005 (Rel. 48, Last annotation update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
 GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Papio hamadryas ursinus (Chacma baboon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;  
 OC Cercopitheidae; Cercopitheciniae; Papio.  
 OX NCBI\_TaxID=36229;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE [MRNA].  
 RX MEDLINE=98147379; PubMed=9488055; DOI=10.1016/S0161-5890(97)00124-7;  
 RA Haudek S.B., Redl H., Schleg G., Giroir B.P.;  
 RT "Complementary DNA (cDNA) sequence of baboon tumor necrosis factor  
 RT alpha.";  
 RL Mol. Immunol. 34:1041-1042(1997).

CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
 CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can  
 CC induce cell death of certain tumor cell lines. It is potent  
 CC pyrogen causing fever by direct action or by stimulation of  
 CC interleukin 1 secretion and is implicated in the induction of  
 CC cachexia. Under certain conditions it can stimulate cell  
 CC proliferation and induce cell differentiation.  
 CC -!- SUBUNIT: Homotrimer (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
 CC extracellular soluble form (By similarity).  
 CC -!- PTM: The soluble form derives from the membrane form by  
 CC proteolytic processing (By similarity).  
 CC -!- PTM: The membrane form, but not the soluble form, is

CC phosphorylated on serine residues. Dephosphorylation of the  
 CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
 CC similarity).  
 CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.  
 CC  
 CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
 CC between the Swiss Institute of Bioinformatics and the EMBL Outstation -  
 CC the European Bioinformatics Institute. There are no restrictions on its  
 CC use as long as its content is in no way modified and this statement is not  
 CC removed.  
 CC EMBL; AF019963; AAC31675.1; -; mRNA.  
 DR HSSP; P01375; 4TSV.  
 DR SMR; O77510; 82-233.  
 DR InterPro; IPR006053; TNF\_abc.  
 DR InterPro; IPR002959; TNF\_alpha.  
 DR InterPro; IPR006052; TNF family.  
 DR InterPro; IPR003636; TNF subf.  
 DR PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 DR Pfam; PF00229; TNF; 1.  
 DR PRINTS; PRO1234; TNECROSISFCT.  
 DR PRINTS; PRO1235; TNFALPHA.  
 DR ProDom; PD002012; TNF subf; 1.  
 DR SMART; SM00207; TNF; 1.  
 DR PROSITE; PS00251; TNF 1; 1.  
 DR PROSITE; PS0049; TNF 2; 1.  
 KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 FT CHAIN 1 233  
 FT TOPO\_DOM 1 35  
 FT TOPO\_DOM 36 56  
 FT TRANSMEM 57 233  
 FT TOPO\_DOM 57 233  
 FT SITE 76 77  
 FT MOD\_RES 2 2  
 FT DISULFID 145 177  
 FT SEQUENCE 233 AA; 25658 MW; B9403255058D4A03 CRC64;  
 Query Match 93.0%; Score 757; DB 1; Length 233;  
 Best Local Similarity 93.6%; Pred. No. 4.2e-68;  
 Matches 147; Conservative 1; Mismatches 9; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDMVAHVANPQAEGLQWLNRRANALLANGVELDNQVVPSEGLYLIYS 60  
 DB 77 VRSSRTSPDKVAHVANPQAEGLQWLNRRANALLANGVELDNQVVPSEGLYLIYS 136  
 QY 61 QVLFSGQGCPSTHLLTHTISRIASVYQTPVNLLSAIRSPCQRETPEGAENPWYEPIYL 120  
 DB 137 QVLFKGQGCPSNHVLLTHTISRIASVYQTKVNLLSAIRSPCQRETPEGAENPWYEPIYL 196  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
 DB 197 GGVFQLEKGRDLSAEINLPDYLDFAESGVYFGIIAL 233  
 RESULT 8  
 TNFA\_PAPAN  
 ID TNFA\_PAPAN STANDARD; PRT; 233 AA.  
 AC P59695;  
 DT 10-OCT-2003 (Rel. 42, Created)  
 DT 10-OCT-2003 (Rel. 42, Last sequence update)  
 DT 13-SEP-2005 (Rel. 48, Last annotation update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
 GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Papio anubis (Olive baboon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;  
 OC Cercopitheidae; Cercopitheciniae; Papio.  
 OX NCBI\_TaxID=9555;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.



RX MEDLINE=211383618; PubMed=11491535; DOI=10.1007/s002510100322;  
RA Villinger F.J., Bostik P., Mayne A.E., King C.L., Genain C.P.,  
RA Weiss W.R., Ansari A.A.;  
RT "Cloning, sequencing, and homology analysis of nonhuman primate  
RL Fas/Fas-ligand and co-stimulatory molecules.";  
RL Immunogenetics 53:315-328(2001).  
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can  
CC induce cell death of certain tumor cell lines. It is potent  
CC pyrogen causing fever by direct action or by stimulation of  
CC interleukin 1 secretion and is implicated in the induction of  
CC cachexia. Under certain conditions it can stimulate cell  
CC proliferation and induce cell differentiation (By similarity).  
CC -!- SUBUNIT: Homotrimer (By similarity).  
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
CC extracellular soluble form (By similarity).  
CC -!- PTM: The soluble form derives from the membrane form by  
CC proteolytic processing (By similarity).  
CC -!- PTM: The membrane form, but not the soluble form, is  
CC phosphorylated on serine residues. Dephosphorylation of the  
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
CC similarity).  
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.  
CC  
CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
CC  
CC EMBL; AY234222; AA085335.1; -; mRNA.  
DR HSSP; P01375; 4TSV.  
DR SNR; P59695; 82-233.  
DR InterPro; IPR006053; TNF\_abc.  
DR InterPro; IPR002959; TNF\_alpha.  
DR InterPro; IPR006052; TNF\_family.  
DR InterPro; IPR003636; TNF\_subf.  
DR PANTHER; PTHR11471.SF4; TNF\_alpha; 1.  
DR Pfam; PF00229; TNF; 1.  
DR PRINTS; PR01234; TNECROSISFCT.  
DR PRINTS; PR01235; TNFALPHA.  
DR ProDom; PD002012; TNF\_subf; 1.  
DR SMART; SM00207; TNF; 1.  
DR PROSITE; PS00251; TNF\_1; 1.  
DR PROSITE; PS00049; TNF\_2; 1.  
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
FT CHAIN 1 233  
FT FT 77 233 Tumor necrosis factor, soluble form (By  
FT FT 1 233 similarity).  
FT FT 77 233 Tumor necrosis factor, soluble form (By  
FT FT 1 34 similarity).  
FT FT 35 57 Cytoplasmic (Potential).  
FT FT 58 233 Signal-anchor for type II membrane  
FT FT 76 77 protein (By similarity).  
FT FT 76 77 Extracellular (Potential).  
FT FT 2 2 Cleavage (by ADAM17) (By similarity).  
FT FT 145 177 Phosphoserine (by CK1) (By similarity).  
FT FT 233 AA; 25736 MW; 0C477F9EB6CC9909 CRC64;  
SQ  
Query Match 92.6%; Score 754; DB 1; Length 233;  
Best Local Similarity 93.6%; Pred. No. 8.4e-68;  
Matches 147; Conservative 1; Mismatches 9; Indels 0; Gaps 0;  
QY 1 VRSSRTPSPMPVAVVAVNPQAEGLQWLNRRANALLANGVELRDNLQVPSGLYLIYS 60  
DB 77 VRSSRTPSPDKPVAVVAVNPQAEGLQWLNRRANALLANGVELRDNLQVPSGLYLIYS 136  
QY 61 QVLFSGGCGSTHLLTHTTSRIAVSYQTVPNLLSAIRSCQRETPGAGANPWYEPYIL 120  
DB 137 QVLFKGGCGSPNHLVLLTHTTSRIAVSYQTVPNLLSAIRSCQRETPGAGAKPWYEPYIL 196  
QY 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIIAL 157

DB 197 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIIAL 233  
RESULT 9  
QY 097543 AOTNA PRELIMINARY; PRT; 149 AA.  
AC 097543;  
DT 01-MAY-1999 (TREMBLrel. 10, Created)  
DT 01-MAY-1999 (TREMBLrel. 10, Last sequence update)  
DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)  
DE Tumor necrosis factor alpha (Fragment).  
GN Name=TNF-alpha;  
OS Aotus nancyrae (Ma's night monkey).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;  
OC Actinae; Aotus.  
OX NCBI\_TaxID=37293;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;  
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,  
RA Murillo L.A., Patarroyo M.E.;  
RT "Identification, cloning, and sequencing of different cytokine genes  
RL in four species of owl monkey.";  
RL Immunogenetics 54:645-653(2002).  
DR EMBL; AF014513; AAD01539.1; -; mRNA.  
DR HSSP; P01375; 4TSV.  
DR SMR; O97543; 1-149.  
DR GO; GO:0016020; C:membrane; IEA.  
DR GO; GO:0003164; F:tumor necrosis factor receptor binding; IEA.  
DR GO; GO:0006955; P:immune response; IEA.  
DR InterPro; IPR006053; TNF\_abc.  
DR InterPro; IPR002959; TNF\_alpha.  
DR InterPro; IPR006052; TNF\_family.  
DR InterPro; IPR003636; TNF\_subf.  
DR Pfam; PF00229; TNF; 1.  
DR PRINTS; PR01234; TNECROSISFCT.  
DR PRINTS; PR01235; TNFALPHA.  
DR ProDom; PD002012; TNF\_subf; 1.  
DR SMART; SM00207; TNF; 1.  
DR PROSITE; PS00251; TNF\_1; 1.  
DR PROSITE; PS00049; TNF\_2; 1.  
FT NON\_TER 1  
FT NON\_TER 149 149  
SQ SEQUENCE 149 AA; 16466 MW; 3C2A6140778EFA8A CRC64;  
Query Match 91.4%; Score 744; DB 2; Length 149;  
Best Local Similarity 96.0%; Pred. No. 5e-67;  
Matches 143; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 8 PSDMPVAVVAVNPQAEGLQWLNRRANALLANGVELRDNLQVPSGLYLIYSQVLFSGQ 67  
DB 1 PSDKPVAVVAVNPQAEGLQWLNRRANALLANGVELRDNLQVPSGLYLIYSQVLFKQG 60  
QY 68 GCPSTHLLTHTTSRIAVSYQTVPNLLSAIRSCQRETPGAGANPWYEPYILGGVFPQLE 127  
DB 61 GCPSTHLLTHTTSRIAVSYQTVPNLLSAIRSCQRETPGAGAKPWYEPYILGGVFPQLE 120  
QY 128 PGDRLSAEINRPDYLDFAESGQVYFGIIA 156  
DB 121 KGRDLSAEINRPDYLDFAESGQVYFGIIA 149  
RESULT 10  
QY TNFA CANFA STANDARD; PRT; 233 AA.  
AC PS1742; Q28339;  
DT 01-OCT-1996 (Rel. 34, Created)  
DT 01-OCT-1996 (Rel. 34, Last sequence update)  
DT 13-SEP-2005 (Rel. 48, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].



GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Canis familiaris (Dog).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;  
 CN Canis.  
 OX NCBI\_TaxID=9615;  
 RN [1]\_TaxID=9615;  
 RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].  
 RA Fiers W.;  
 RT "Tumour necrosis factor."; (In) Sim E. (eds.);  
 RL The natural immune system humoral factors, pp.65-119, IRL Press,  
 RL Oxford (1993).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE [MRNA].  
 RA Zucker K., Lu P., Fuller L., Asthana D., Esquenazi V., Miller J.;  
 RT "Cloning and expression of the cDNA for canine tumor necrosis factor-  
 alpha in E. coli."; (In) Lymphokine Res. 13:191-196(1994).  
 RN [3]  
 RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].  
 RA Wagner J.L., Palti Y., DiDario D.D.;  
 RT "Genomic map of a portion of the canine MHC class I histocompatibility  
 complex."; Submitted (SEP-2003) to the EMBL/GenBank/DBJ databases.  
 RN [4]  
 RP NUCLEOTIDE SEQUENCE [MRNA] OF 74-205.  
 RC STRAIN=Beagle; TISSUE=Blood;  
 RA Gilmore W.H., Carter S.D., Bennett M., Barnes A., Kelly D.F.;  
 RT "Expression of canine TNF, IL-1 and IL-6 mRNAs in peripheral blood  
 monocytes and cell lines."; Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.  
 RL Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.  
 CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
 CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can  
 CC induce cell death of certain tumor cell lines. It is potent  
 CC pyrogen causing fever by direct action or by stimulation of  
 CC interleukin 1 secretion and is implicated in the induction of  
 CC cachexia. Under certain conditions it can stimulate cell  
 CC proliferation and induce cell differentiation.  
 CC -!- SUBUNIT: Homotrimer (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
 CC extracellular soluble form (By similarity).  
 CC -!- PTM: The soluble form derives from the membrane form by  
 CC proteolytic processing (By similarity).  
 CC -!- PTM: The membrane form, but not the soluble form, is  
 CC phosphorylated on serine residues. Dephosphorylation of the  
 CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
 CC similarity).  
 CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.

-----  
 CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
 CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
 CC the European Bioinformatics Institute. There are no restrictions on its  
 CC use as long as its content is in no way modified and this statement is not  
 CC removed.

-----  
 DR EMBL; X94932; CA64403.1; -; Genomic DNA.  
 DR EMBL; S74068; AAB32391.1; -; mRNA.  
 DR EMBL; AY423389; AAR27885.1; -; Genomic DNA.  
 DR EMBL; 270046; CAA93908.1; -; mRNA.  
 DR HSSP; P01375; 4TSV.  
 DR SMR; P51742; 82-233.  
 DR Ensembl; ENSCAG0000000517; Canis familiaris.  
 DR InterPro; IPR006053; TNF abc.  
 DR InterPro; IPR002959; TNF alpha.  
 DR InterPro; IPR006052; TNF family.  
 DR InterPro; IPR003636; TNF\_subf.  
 DR PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 DR Pfam; PF00229; TNF; 1.  
 DR PRINTS; PR01234; TNCR0SISFCT.  
 DR PRINTS; PR01235; TNFALPHA.  
 DR ProDom; PD002012; TNF\_subf; 1.  
 DR SMART; SM00207; TNF; 1.

DR PROSITE; PS00251; TNF\_1; 1.  
 DR PROSITE; PS0049; TNF\_2; 1.  
 KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 FT CHAIN 1 233  
 FT CHAIN 77 233  
 FT TOPO\_DOM 1 35  
 FT TRANSMEM 36 56  
 FT TOPO\_DOM 57 233  
 FT SITE 76 77  
 FT MOD\_RES 2 2  
 FT DISULFID 145 177  
 FT CONFLICT 59 60  
 FT CONFLICT 66 66  
 FT CONFLICT 74 74  
 FT CONFLICT 111 111  
 FT CONFLICT 116 116  
 FT CONFLICT 134 135  
 SQ SEQUENCE 233 AA; 25447 MW; 7B2588FBCB25340 CRC64;  
 Query Match 90.7%; Score 738; DB 1; Length 233;  
 Best Local Similarity 89.8%; Pred. No. 3.5e-66;  
 Matches 141; Conservative 7; Mismatches 9; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDMPVAVHVPQAEQQLWLNRRANALLANGVELRNQLVPSEGLYLYS 60  
 DB 77 VSSSRTPSDMPVAVHVPQAEQQLWLNRRANALLANGVELRNQLVPSEGLYLYS 136  
 QY 61 QVLESGGQCPSTHLLTHTTISRIVSYQTQVNLLSAIRSPQRETPEGAANPWYEPYIL 120  
 DB 137 QVLPFGQCPSTHLLTHTTISRFAVSQTQVNLLSAIRSPQRETPEGTAKPWYEPYIL 196  
 QY 121 GGVFOLKPGDRLSABINRPDYLDFAESGVYFGIIL 157  
 DB 197 GGVFOLKPGDRLSABINRPDYLDFAESGVYFGIIL 233  
 RESULT 11  
 ID TNFA\_FELCA STANDARD; PRT; 233 AA.  
 AC P19101; Q8HYMO;  
 DT 01-NOV-1990 (Rel. 16, Created)  
 DT 10-OCT-2003 (Rel. 42, Last sequence update)  
 DT 13-SEP-2005 (Rel. 48, Last annotation update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
 GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Felis silvestris catus (Cat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;  
 OC Felinae; Felis.  
 OX NCBI\_TaxID=9685;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC TISSUE=Blood;  
 RX MEDLINE=91016860; PubMed=2216740;  
 RA McGraw R.A., Coffee B.W., Otto C.M., Drews R.T., Rawlings C.A.;  
 RT "Gene sequence of feline tumor necrosis factor alpha.";  
 RL Nucleic Acids Res. 18:5563-5563(1990).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE [MRNA].  
 RC TISSUE=Bone marrow;  
 RA Daniel S.L., Brenner C.A., Legendre A.M., Solomon A., Rouse B.T.;  
 RT "Feline cytokines TNF alpha and IL-1 beta: PCR cloning and sequencing  
 RT of cDNA.";  
 RL Anim. Biotechnol. 3:117-121(1992).  
 RN [3]  
 RP NUCLEOTIDE SEQUENCE OF 95-185.  
 RA Subott E.E., Rollo W.A., Venta P.J., Ewart S.L.;  
 RT "Characterization of 8 feline type I markers.";  
 RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.  
 CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and



```
DR PROSITE, PS50049; TNF_2; 1;
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 233 Tumor necrosis factor, membrane form (By
FT similarity).
FT CHAIN 77 233 Tumor necrosis factor, soluble form (By
FT similarity).
FT TOPO_DOM 1 32 Cytoplasmic (Potential).
FT TRANSMEM 33 55 Signal-anchor for type II membrane
FT protein (By similarity).
FT TOPO_DOM 56 233 Extracellular (Potential).
FT SITE 76 77 Cleavage (by ADAM17) (By similarity).
FT MOD_RES 2 2 Phosphoserine (by CK1) (By similarity).
FT DISULFID 145 177 By similarity.
SQ SEQUENCE 233 AA; 25578 MW; 197F0866F744FCAD CRC64;

Query Match 87.0%; Score 708; DB 1; Length 233;
Best Local Similarity 87.3%; Pred. No. 3.8e-63;
Matches 137; Conservative 7; Mismatches 13; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
DB 77 VRSSRIPSDKPEVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 136
QY 61 QVLFSGQGPCSTHLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAANPWYEPIYL 120
DB 137 QVLFKGQGPCSTFTLLTHTSIRIAVSQAKVNLLSAIRSPCORETPRGAKTNPWYEPIYL 196
QY 121 GGVFQLEPGDRLSAENRPDYLDFAESGVYFGIIAL 157
DB 197 GGVFQLEKGDRLSABISPPDLDLAESGVYFGIIAL 233

RESULT 13
O97538 AOTVO PRELIMINARY; PRT; 149 AA.
AC O97538;
DT 01-MAY-1999 (TrEMBLrel. 10, Created)
DT 01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Tumor necrosis factor alpha (Fragment).
GN Name=TNF-alpha;
OS Aotus vociferans (Spix's owl monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC Aotinae; Aotus.
OX NCBI_TaxID=571176;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
in four species of owl monkey."
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF014508; RAD01534.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; O97538; 1-149.
DR GO; GO:0016020; C:membrane; IEA.
DR GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P:immune response; IEA.
DR InterPro; IPR006053; TNF_abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS50049; TNF_2; 1.
FT NON_TER 1
FT NON_TER 149
SQ SEQUENCE 149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;

Query Match 86.2%; Score 702; DB 2; Length 149;
Best Local Similarity 89.9%; Pred. No. 8.8e-63;
Matches 134; Conservative 5; Mismatches 10; Indels 0; Gaps 0;

QY 8 PSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 67
DB 1 PSDKPEVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
QY 68 GCPSTHVLTLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAANPWYEPIYLGVFQLE 127
DB 61 GCPSTFMLLTHTSIRIAVSQAKVNLLSAIRSPCORETPRGAKTNPWYEPIYLGVFQLE 120

RESULT 14
Q9TTG8 AOTNI PRELIMINARY; PRT; 149 AA.
AC Q9TTG8;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Tumor necrosis factor alpha (Fragment).
GN Name=TNF-alpha;
OS Aotus nigriceps (Black-headed owl monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC Aotinae; Aotus.
OX NCBI_TaxID=571175;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
in four species of owl monkey."
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF097328; AAF21303.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; Q9TTG8; 1-149.
DR GO; GO:0016020; C:membrane; IEA.
DR GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P:immune response; IEA.
DR InterPro; IPR006053; TNF_abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS50049; TNF_2; 1.
FT NON_TER 1
FT NON_TER 149
SQ SEQUENCE 149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;

Query Match 86.2%; Score 702; DB 2; Length 149;
Best Local Similarity 89.9%; Pred. No. 8.8e-63;
Matches 134; Conservative 5; Mismatches 10; Indels 0; Gaps 0;

QY 8 PSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 67
DB 1 PSDKPEVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
QY 68 GCPSTHVLTLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAANPWYEPIYLGVFQLE 127
DB 61 GCPSTFMLLTHTSIRIAVSQAKVNLLSAIRSPCORETPRGAKTNPWYEPIYLGVFQLE 120
```

```
QY 128 PGDRLSAEINRPDYLDFAESGQVYFGIIA 156
Db 121 KGDRLSAEINLPDYLDLAESGQVYFGIIA 149

RESULT 15
TNFA_HORSE
ID TNFA_HORSE STANDARD; PRT; 234 AA.
AC P29553; Q9TJT3;
DT 01-APR-1993 (Rel. 25, Created)
DT 01-APR-1993 (Rel. 25, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name-TNF; Synonyms-TNFA, TNFSF2;
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=92084125; PubMed=1748301; DOI=10.1016/0378-1119(91)90333-7;
RA Su X., Morris D.D., McGraw R.A.;
RT "Cloning and characterization of gene TNF alpha encoding equine tumor
RT necrosis factor alpha.";
RL Gene 107:319-321(1991).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=Thoroughbred; TISSUE=Artery;
RA Ishida N., Sato F., Hasegawa T.;
RT "Molecular cloning of equine tumor necrosis factor-alpha mRNA.";
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia. Under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation.
CC -1- SUBUNIT: Homotrimer (By similarity).
CC -1- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -1- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -1- PTM: The membrane form, but not the soluble form, is
CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -1- SIMILARITY: Belongs to the tumor necrosis factor family.

-----
This Swiss-Prot entry is copyright. It is produced through a collaboration
between the Swiss Institute of Bioinformatics and the EMBL outstation -
the European Bioinformatics Institute. There are no restrictions on its
use as long as its content is in no way modified and this statement is not
removed.
-----
EMBL; M64087; AAA30959.1; -; Genomic_DNA.
DR EMBL; AB035735; BAA88349.1; -; mRNA.
DR PIR; JQ1344; JQ1344.
DR HSSP; P01375; 1A8M.
DR SNR; P29553; 83-234.
DR InterPro; IPR006053; TNF_abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
```

```
DR PROSITE; PS50049; TNF_2; 1.
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 234
FT CHAIN 78 234
FT TOPO_DOM 1 35
FT TRANSMEM 36 56
FT TOPO_DOM 57 234
FT SITE 77 78
FT MOD_RES 2 2
FT DISULFID 146 178
FT CONFLICT 177 179
FT CONFLICT 234 AA; 25469 MW; E79ACE91143DF373 CRC64;
SQ SEQUENCE 234 AA; 25469 MW; E79ACE91143DF373 CRC64;

Query Match 85.6%; Score 697; DB 1; Length 234;
Best Local Similarity 85.4%; Pred. No. 5e-62;
Matches 134; Conservative 11; Mismatches 12; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYIYS 60
Db 78 LRSSRTPSDKPVAHVANPQAEGLQWLSGRANALLANGVKLTQNLVPLDGLYIYS 137

QY 61 QVLFSGQCGCPSTHVLTTHTTISRIVSYQTPVNLISAIRSPCORETPEGAEANPWYEPYIL 120
Db 138 QVLFKGQCGCPSTHVLTTHTTISRIVSYQTPVNLISAIRSPCHTESPEQAQAKPWYEPYIL 197

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 198 GGVFQLEKGDQLSAEINQPNYLDFAESGQVYFGIIAL 234

Search completed: May 5, 2006, 11:26:01
Job time : 54.5 secs
```

**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:22:28 ; Search time 15.25 Seconds  
(without alignment)  
851.153 Million cell updates/sec

Title: US-10-668-178-3  
Perfect score: 814  
Sequence: 1 VRSSRTSPDMPVAHVANP.....RPDYLDFAESGVYFGIIAL 157

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued Patents AA:\*  
1: /cgn2\_6/ptodata/1/iaa/5 COMB.pep.\*  
2: /cgn2\_6/ptodata/1/iaa/6 COMB.pep.\*  
3: /cgn2\_6/ptodata/1/iaa/H COMB.pep.\*  
4: /cgn2\_6/ptodata/1/iaa/PCRU COMB.pep.\*  
5: /cgn2\_6/ptodata/1/iaa/RE COMB.pep.\*  
6: /cgn2\_6/ptodata/1/iaa/backfiles1.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	779	95.7	157	1	US-07-794-400-1 Sequence 1, Appli
2	779	95.7	157	1	US-08-041-648-2 Sequence 2, Appli
3	779	95.7	157	1	US-08-107-235-1 Sequence 1, Appli
4	779	95.7	157	1	US-08-217-529-2 Sequence 2, Appli
5	779	95.7	157	1	US-08-318-193-86 Sequence 86, Appli
6	779	95.7	157	1	US-08-397-470-1 Sequence 1, Appli
7	779	95.7	157	1	US-08-192-102-1 Sequence 1, Appli
8	779	95.7	157	1	US-08-324-799-1 Sequence 1, Appli
9	779	95.7	157	1	US-08-538-875-1 Sequence 1, Appli
10	779	95.7	157	1	US-08-394-600B-17 Sequence 17, Appli
11	779	95.7	157	1	US-08-500-860A-35 Sequence 35, Appli
12	779	95.7	157	1	US-08-192-861A-1 Sequence 1, Appli
13	779	95.7	157	1	US-08-600-783-5 Sequence 5, Appli
14	779	95.7	157	2	US-08-584-031-13 Sequence 13, Appli
15	779	95.7	157	2	US-08-714-960B-1 Sequence 1, Appli
16	779	95.7	157	2	US-09-133-119-1 Sequence 1, Appli
17	779	95.7	157	2	US-08-192-093A-1 Sequence 1, Appli
18	779	95.7	157	2	US-09-598-784-1 Sequence 1, Appli
19	779	95.7	157	2	US-09-496-118B-7 Sequence 7, Appli
20	779	95.7	157	2	US-08-395-456C-17 Sequence 17, Appli
21	779	95.7	157	2	US-08-487-453A-17 Sequence 17, Appli
22	779	95.7	157	2	US-09-582-450-13 Sequence 13, Appli
23	779	95.7	157	2	US-09-934-465-13 Sequence 13, Appli
24	779	95.7	157	2	US-09-756-301B-1 Sequence 1, Appli
25	779	95.7	157	2	US-09-756-398B-1 Sequence 1, Appli
26	779	95.7	157	4	PCT-US92-02190-1 Sequence 1, Appli
27	779	95.7	157	4	PCT-US93-02475-1 Sequence 1, Appli

28 779 95.7 157 4 PCT-US95-02513-17 Sequence 17, Appli  
29 779 95.7 157 6 5180811-1 Patent No. 5180811  
30 779 95.7 158 2 US-09-645-415A-4 Sequence 4, Appli  
31 779 95.7 177 1 US-08-394-600B-21 Sequence 21, Appli  
32 779 95.7 177 2 US-08-395-456C-21 Sequence 21, Appli  
33 779 95.7 177 2 US-08-487-453A-21 Sequence 21, Appli  
34 779 95.7 177 4 PCT-US95-02513-21 Sequence 21, Appli  
35 779 95.7 180 2 US-09-645-415A-8 Sequence 8, Appli  
36 779 95.7 193 1 US-08-889-909A-3 Sequence 3, Appli  
37 779 95.7 193 2 US-09-156-163A-3 Sequence 3, Appli  
38 779 95.7 193 2 US-09-982-308B-3 Sequence 10, Appli  
39 779 95.7 233 1 US-08-323-445A-10 Sequence 10, Appli  
40 779 95.7 233 1 US-08-515-903A-10 Sequence 10, Appli  
41 779 95.7 233 1 US-08-912-227-3 Sequence 3, Appli  
42 779 95.7 233 1 US-08-230-428B-2 Sequence 2, Appli  
43 779 95.7 233 2 US-08-883-086-6 Sequence 6, Appli  
44 779 95.7 233 2 US-08-880-342-37 Sequence 37, Appli  
45 779 95.7 233 2 US-09-589-287B-3 Sequence 3, Appli

## ALIGNMENTS

RESULT 1  
US-07-794-400-1  
; Sequence 1, Application US/07794400  
; Patent No. 5422104  
; GENERAL INFORMATION:  
; APPLICANT: Fiers, W.  
; APPLICANT: Tavernier, J.  
; APPLICANT: Van Ostade, X.  
; TITLE OF INVENTION: TNF-Mutins  
; NUMBER OF SEQUENCES: 24  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Hoffmann-La Roche Inc.  
; STREET: 340 Kingsland Street  
; CITY: Nutley  
; STATE: New Jersey  
; COUNTRY: USA  
; ZIP: 07110  
; COMPUTER READABLE FORM: disk  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/794,400  
; FILING DATE: 19911120  
; CLASSIFICATION: 435  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: EP 90810901.0  
; FILING DATE: 21-NOV-1990  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Krovatin, William  
; REGISTRATION NUMBER: 33256  
; REFERENCE/DOCKET NUMBER: 4105/136-00  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (201) 235-4387  
; TELEFAX: (201) 235-3500  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 157 amino acids  
; TYPE: AMINO ACID  
; TOPOLOGY: linear  
; MOLECULE TYPE: Protein  
; ORIGINAL SOURCE:  
; ORGANISM: Homo sapiens  
; TISSUE TYPE: Blood  
; CELL TYPE: Macrophage  
; US-07-794-400-1  
Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDKPKVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY 61 QVLFSGGCGPSTHVLTHHTISRIASVYQTPVNLSSAIRSPCORETPEGAENPWYEPIYL 120  
DB 61 QVLFKGQCGPSTHVLTHHTISRIASVYQTKVNLSSAIRSPCORETPEGAENPWYEPIYL 120

QY 121 GGVFQLEKGDRLSABINRPDYLDFAESGVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSABINRPDYLDFAESGVYFGIIAL 157

RESULT 2  
US-08-041-648-2  
; Sequence 2, Application US/08041648  
; Patent No. 5486463  
; GENERAL INFORMATION:  
; APPLICANT: Lesslauer, Werner  
; APPLICANT: L tscher, Hansruedi  
; APPLICANT: St ber, Dietrich  
; TITLE OF INVENTION: TNF-MUTEINS  
; NUMBER OF SEQUENCES: 17  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: George M. Gould, Esq., Hoffmann-La Roche Inc.  
; STREET: 340 Kingsland Street  
; CITY: Nutley  
; STATE: New Jersey  
; COUNTRY: U.S.A.  
; ZIP: 07110-1199  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/041,648  
; FILING DATE: 1-APR-1993  
; CLASSIFICATION: 435  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: EP 92810249.0  
; FILING DATE: 2-APR-1992  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Roseman, Catherine R.  
; REGISTRATION NUMBER: 34240  
; REFERENCE/DOCKET NUMBER: RAN 4105/147  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (201) 235-6208  
; TELEFAX: (201) 235-3500  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 157 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; US-08-041-648-2

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDKPKVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY 61 QVLFSGGCGPSTHVLTHHTISRIASVYQTPVNLSSAIRSPCORETPEGAENPWYEPIYL 120  
DB 61 QVLFKGQCGPSTHVLTHHTISRIASVYQTKVNLSSAIRSPCORETPEGAENPWYEPIYL 120

QY 121 GGVFQLEKGDRLSABINRPDYLDFAESGVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSABINRPDYLDFAESGVYFGIIAL 157

DB 121 GGVFQLEKGDRLSABINRPDYLDFAESGVYFGIIAL 157

RESULT 3  
US-08-107-235-1  
; Sequence 1, Application US/08107235  
; Patent No. 5587457  
; GENERAL INFORMATION:  
; APPLICANT: Rathjen, Deborah A  
; APPLICANT: Ferrante, Antonio  
; APPLICANT: Widmer, Fred  
; TITLE OF INVENTION: Neutrophil Stimulating Peptides  
; NUMBER OF SEQUENCES: 19  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Allegretti & Witcoff, Ltd.  
; STREET: 10 S. Wacker Dr.  
; CITY: Chicago  
; STATE: Illinois  
; COUNTRY: USA  
; ZIP: 60606  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/107,235  
; FILING DATE: 16-AUG-1993  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 07/930,415  
; FILING DATE: 12-MAR-1991  
; ATTORNEY/AGENT INFORMATION:  
; NAME: McDonnell, John J  
; REGISTRATION NUMBER: 26,949  
; REFERENCE/DOCKET NUMBER: 92,622A  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 312-715-1000  
; TELEFAX: 312-715-1234  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 157 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; FEATURE:  
; NAME/KEY: Peptide  
; LOCATION: 1..157  
; OTHER INFORMATION: /note= "HUMAN TNF)"  
US-08-107-235-1

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDKPKVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY 61 QVLFSGGCGPSTHVLTHHTISRIASVYQTPVNLSSAIRSPCORETPEGAENPWYEPIYL 120  
DB 61 QVLFKGQCGPSTHVLTHHTISRIASVYQTKVNLSSAIRSPCORETPEGAENPWYEPIYL 120

QY 121 GGVFQLEKGDRLSABINRPDYLDFAESGVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSABINRPDYLDFAESGVYFGIIAL 157

RESULT 4  
US-08-217-529-2  
; Sequence 2, Application US/08217529  
; Patent No. 5597899  
; GENERAL INFORMATION:



APPLICANT: Banner, David  
APPLICANT: Lesslauer, Werner  
APPLICANT: Lotzner, Hanserudi  
APPLICANT: Stuber, Dietrich  
TITLE OF INVENTION: Tumor Necrosis Factor Muteins  
NUMBER OF SEQUENCES: 7  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: George M. Gould, Esq., Hoffmann-La Roche Inc.  
STREET: 340 Kingsland Street  
CITY: Nutley  
STATE: New Jersey  
COUNTRY: U.S.  
ZIP: 07110  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/217,529  
FILING DATE: 24-MAR-1994  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: EP 93810224.1  
FILING DATE: 29-MAR-1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Roseman, Catherine R  
REGISTRATION NUMBER: 34240  
REFERENCE/DOCKET NUMBER: 4105/155  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (201) 235-3500  
TELEFAX: (201) 235-3500  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-217-529-2

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVAVANPQAGQLQWLNRRANALLANGVELRDNLVVPSSGLYLIYS 60  
DB 1 VRSSRTPSDKPKVAHVAVANPQAGQLQWLNRRANALLANGVELRDNLVVPSSGLYLIYS 60

QY 61 QVLFSGGCGPSTHLLTHTISRIASVYQTPVNLLSAIRSPCQRETPGAEANPWYEPYIL 120  
DB 61 QVLFKGCGCPSTHLLTHTISRIASVYQTKVNLLSAIKSPCQRETPGAEAKPWYEPYIL 120

QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 157

RESULT 5  
US-08-318-193-86  
Sequence 86, Application US/08318193  
Patent No. 5641663  
GENERAL INFORMATION:  
APPLICANT: GARVIN, Robert T.  
APPLICANT: MALEK, Lawrence T.  
TITLE OF INVENTION: AN EXPRESSION SYSTEM FOR THE SECRETION  
OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY  
STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS  
PROTEINS FROM STREPTOMYCES  
TITLE OF INVENTION: PROTEINS FROM STREPTOMYCES  
NUMBER OF SEQUENCES: 91  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Foley & Lardner  
STREET: 1800 Diagonal Road, Suite 500  
CITY: Alexandria

STATE: Virginia  
COUNTRY: USA  
ZIP: 22313-0299  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/318,193  
FILING DATE:  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/07/935,314  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: BENT, Stephen A.  
REGISTRATION NUMBER: 29,768  
REFERENCE/DOCKET NUMBER: 18740/116 CACO  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (703) 836-9300  
TELEFAX: (703) 883-4109  
TELEX: 899149  
INFORMATION FOR SEQ ID NO: 86:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-318-193-86

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVAVANPQAGQLQWLNRRANALLANGVELRDNLVVPSSGLYLIYS 60  
DB 1 VRSSRTPSDKPKVAHVAVANPQAGQLQWLNRRANALLANGVELRDNLVVPSSGLYLIYS 60

QY 61 QVLFSGGCGPSTHLLTHTISRIASVYQTPVNLLSAIRSPCQRETPGAEANPWYEPYIL 120  
DB 61 QVLFKGCGCPSTHLLTHTISRIASVYQTKVNLLSAIKSPCQRETPGAEAKPWYEPYIL 120

QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 157

RESULT 6  
US-08-397-470-1  
Sequence 1, Application US/08397470  
Patent No. 5652353  
GENERAL INFORMATION:  
APPLICANT: Fiers, W.  
APPLICANT: Tavernier, J.  
APPLICANT: Van Oostade, X.  
TITLE OF INVENTION: TNF-Mutins  
NUMBER OF SEQUENCES: 24  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Hoffmann-La Roche Inc.  
STREET: 340 Kingsland Street  
CITY: Nutley  
STATE: New Jersey  
COUNTRY: USA  
ZIP: 07110  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/397,470

```
/ ; FILING DATE: 01-MAR-1995
/ ; CLASSIFICATION: 435
/ ; PRIOR APPLICATION DATA:
/ ; APPLICATION NUMBER: US 07/794,400
/ ; FILING DATE: 20-NOV-1991
/ ; APPLICATION NUMBER: EP 90810901.0
/ ; FILING DATE: 21-NOV-1990
/ ; ATTORNEY/AGENT INFORMATION:
/ ; NAME: Krovatin, William
/ ; REGISTRATION NUMBER: 33256
/ ; REFERENCE/DOCKET NUMBER: 4105/136-00
/ ; TELECOMMUNICATION INFORMATION:
/ ; TELEPHONE: (201) 235-4387
/ ; TELEFAX: (201) 235-3500
/ ; INFORMATION FOR SEQ ID NO: 1:
/ ; SEQUENCE CHARACTERISTICS:
/ ; LENGTH: 157 amino acids
/ ; TYPE: amino acid
/ ; TOPOLOGY: linear
/ ; MOLECULE TYPE: protein
/ ; ORIGINAL SOURCE:
/ ; ORGANISM: Homo sapiens
/ ; TISSUE TYPE: Blood
/ ; CELL TYPE: Macrophage
/ ;
/ ; US-08-397-470-1
/ ;
/ ; Query Match 95.7%; Score 779; DB 1; Length 157;
/ ; Best Local Similarity 96.2%; Pred. No. 9.5e-74;
/ ; Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
/ ;
/ ; QY 1 VRSSRTSPDMPVAVHVNPAQEGQLWLNRRANALLANGVELRDNLQVVPSEGLYLYS 60
/ ; Db 1 VRSSRTSPDMPVAVHVNPAQEGQLWLNRRANALLANGVELRDNLQVVPSEGLYLYS 60
/ ; QY 61 QVLFSGQCGCPSTHVLTTHTISRIASVYQTPVNLSSAIRSPCORETPEGAEANPWYEPIYL 120
/ ; Db 61 QVLFKGQCGCPSTHVLTTHTISRIASVYQTPVNLSSAIRSPCORETPEGAEANPWYEPIYL 120
/ ; QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
/ ; Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
/ ;
/ ; RESULT 7
/ ; US-08-192-102-1
/ ; Sequence 1, Application US/08192102
/ ; Patent No. 5656272
/ ; GENERAL INFORMATION:
/ ; APPLICANT: Le, Junming
/ ; APPLICANT: Vilecek, Jan
/ ; APPLICANT: Daddona, Peter E.
/ ; APPLICANT: Grayeb, John
/ ; APPLICANT: Knight, David M.
/ ; APPLICANT: Siegel, Scott A.
/ ; TITLE OF INVENTION: ANTI-TNF ANTIBODIES AND ASSAYS EMPLOYING
/ ; TITLE OF INVENTION: ANTI-TNF ANTIBODIES
/ ; NUMBER OF SEQUENCES: 19
/ ; CORRESPONDENCE ADDRESS:
/ ; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
/ ; STREET: Two Militia Drive
/ ; CITY: Lexington
/ ; STATE: Massachusetts
/ ; COUNTRY: USA
/ ; ZIP: 02173
/ ; COMPUTER READABLE FORM:
/ ; MEDIUM TYPE: Floppy disk
/ ; OPERATING SYSTEM: PC-DOS/MS-DOS
/ ; SOFTWARE: Patent In Release #1.0, Version #1.25
/ ; CURRENT APPLICATION DATA:
/ ; APPLICATION NUMBER: US/08/192,102
/ ; FILING DATE: 04-FEB-1994
/ ; CLASSIFICATION: 424
```

```
/ ; PRIOR APPLICATION DATA:
/ ; APPLICATION NUMBER: US/08/192,093
/ ; FILING DATE: 04-FEB-1994
/ ; APPLICATION NUMBER: US 08/013,413
/ ; FILING DATE: 02-FEB-1993
/ ; PRIOR APPLICATION DATA:
/ ; APPLICATION NUMBER: US 08/010,406
/ ; FILING DATE: 29-JAN-1993
/ ; PRIOR APPLICATION DATA:
/ ; APPLICATION NUMBER: US 07/943,852
/ ; FILING DATE: 11-SEP-1992
/ ; PRIOR APPLICATION DATA:
/ ; APPLICATION NUMBER: US 07/853,606
/ ; FILING DATE: 18-MAR-1992
/ ; PRIOR APPLICATION DATA:
/ ; APPLICATION NUMBER: US 07/670,827
/ ; FILING DATE: 18-MAR-1991
/ ; ATTORNEY/AGENT INFORMATION:
/ ; NAME: Brook, David E.
/ ; REGISTRATION NUMBER: 22,592
/ ; REFERENCE/DOCKET NUMBER: NY093-01M3
/ ; TELECOMMUNICATION INFORMATION:
/ ; TELEPHONE: (617) 861-6240
/ ; TELEFAX: (617) 861-9540
/ ; INFORMATION FOR SEQ ID NO: 1:
/ ; SEQUENCE CHARACTERISTICS:
/ ; LENGTH: 157 amino acids
/ ; TYPE: amino acid
/ ; TOPOLOGY: linear
/ ; MOLECULE TYPE: peptide
/ ;
/ ; US-08-192-102-1
/ ;
/ ; Query Match 95.7%; Score 779; DB 1; Length 157;
/ ; Best Local Similarity 96.2%; Pred. No. 9.5e-74;
/ ; Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
/ ;
/ ; QY 1 VRSSRTSPDMPVAVHVNPAQEGQLWLNRRANALLANGVELRDNLQVVPSEGLYLYS 60
/ ; Db 1 VRSSRTSPDMPVAVHVNPAQEGQLWLNRRANALLANGVELRDNLQVVPSEGLYLYS 60
/ ; QY 61 QVLFSGQCGCPSTHVLTTHTISRIASVYQTPVNLSSAIRSPCORETPEGAEANPWYEPIYL 120
/ ; Db 61 QVLFKGQCGCPSTHVLTTHTISRIASVYQTPVNLSSAIRSPCORETPEGAEANPWYEPIYL 120
/ ; QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
/ ; Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
/ ;
/ ; RESULT 8
/ ; US-08-324-799-1
/ ; Sequence 1, Application US/08324799
/ ; Patent No. 5698195
/ ; GENERAL INFORMATION:
/ ; APPLICANT: Le, Junming
/ ; APPLICANT: Vilecek, Jan
/ ; APPLICANT: Daddona, Peter E.
/ ; APPLICANT: Grayeb, John
/ ; APPLICANT: Knight, David M.
/ ; APPLICANT: Siegel, Scott A.
/ ; TITLE OF INVENTION: ANTI-TNF ANTIBODIES AND PEPTIDES
/ ; TITLE OF INVENTION: OF HUMAN TUMOR NECROSIS FACTOR
/ ; NUMBER OF SEQUENCES: 19
/ ; CORRESPONDENCE ADDRESS:
/ ; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
/ ; STREET: Two Militia Drive
/ ; CITY: Lexington
/ ; STATE: Massachusetts
/ ; COUNTRY: USA
/ ; ZIP: 02173
/ ; COMPUTER READABLE FORM:
/ ; MEDIUM TYPE: Floppy disk
/ ; COMPUTER: IBM PC compatible
```

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/324,799  
FILING DATE: 18-OCT-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,093  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,102  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,861  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/013,413  
FILING DATE: 02-FEB-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/010,406  
FILING DATE: 29-JAN-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/943,852  
FILING DATE: 11-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/853,606  
FILING DATE: 18-MAR-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/670,827  
FILING DATE: 18-MAR-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Brook, David E.  
REGISTRATION NUMBER: 22,592  
REFERENCE/DOCKET NUMBER: NYU93-01M4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (617) 861-6240  
TELEFAX: (617) 861-9540  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-324-799-1

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTSPDMPVAHVAVNPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 1 VRSSRTSPDKPVAHVAVNPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

Qy 61 QVLFSGGCGPSTHVLLTHTTISRIVAVSYQTPVNLISAIRSPCQRETPGAEANPWYPIYL 120  
Db 61 QVLFKGCGPSTHVLLTHTTISRIVAVSYQTKVNLISAIKSPCQRETPGAEAKPWYPIYL 120

Qy 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157  
Db 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 9  
US-08-538-875-1  
Sequence 1, Application US/08538875  
Patent No. 5773582  
GENERAL INFORMATION:  
APPLICANT: Shin, Hang-Cheol  
APPLICANT: Shin, Nam-Kyu  
APPLICANT: Lee, Inkyung  
APPLICANT: Kang, Sungzong  
TITLE OF INVENTION: TUMOR NECROSIS FACTOR MUTEINS  
NUMBER OF SEQUENCES: 73  
CORRESPONDENCE ADDRESS:

ADDRESSEE: Shin, Hang-Cheol  
STREET: Jukong Gochung Apt. 1014-806, Haan-dong  
CITY: Kwangmyung-shi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 423-060  
ADDRESSEE: Shin, Nam-Kyu  
STREET: #181-404 Sadang-4-dong, Dongjak-ku  
CITY: Seoul  
STATE: Republic of Korea  
ZIP: 156-094  
ADDRESSEE: Lee, Inkyung  
STREET: 11/2, #302-39 Juan-4-dong, Nam-ku  
CITY: Incheon  
STATE: Republic of Korea  
ZIP: 402-204  
ADDRESSEE: Kang, Sungzong  
STREET: #84-4 Daeshin-dong, Seodaemun-ku  
CITY: Seoul  
STATE: Republic of Korea  
ZIP: 120-160  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette 3.5inch 2.0Mb storage  
COMPUTER: IBM PC/AT  
OPERATING SYSTEM: MS-DOS  
SOFTWARE: WordPerfect 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/538,875  
FILING DATE:  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/08/193,336  
FILING DATE:  
APPLICATION NUMBER: KR 93-1751  
FILING DATE: 9-FEB-1993  
ATTORNEY/AGENT INFORMATION:  
NAME:  
REGISTRATION NUMBER:  
REFERENCE/DOCKET NUMBER:  
TELECOMMUNICATION INFORMATION:  
TELEPHONE:  
TELEFAX:  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-538-875-1

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTSPDMPVAHVAVNPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 1 VRSSRTSPDKPVAHVAVNPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

Qy 61 QVLFSGGCGPSTHVLLTHTTISRIVAVSYQTPVNLISAIRSPCQRETPGAEANPWYPIYL 120  
Db 61 QVLFKGCGPSTHVLLTHTTISRIVAVSYQTKVNLISAIKSPCQRETPGAEAKPWYPIYL 120

Qy 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157  
Db 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 10  
US-08-394-600B-17

; Sequence 17, Application US/08394600B  
; Patent No. 5843693  
; GENERAL INFORMATION:  
; APPLICANT: Halenbeck, Robert F.  
; APPLICANT: Jewell, David A.  
; APPLICANT: Koths, Kirston E.  
; APPLICANT: Kriegler, Michael  
; APPLICANT: Perez, Carl  
; TITLE OF INVENTION: Compositions for the Inhibition of  
; TITLE OF INVENTION: Protein Hormone Formation and Uses Thereof  
; NUMBER OF SEQUENCES: 28  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: McAndrews, Held & Malloy, Ltd.  
; STREET: 500 West Madison Street; 34th Floor  
; CITY: Chicago  
; STATE: Illinois  
; COUNTRY: United States of America  
; ZIP: 60661  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/394,600B  
; FILING DATE: 02/27/95  
; CLASSIFICATION: 435  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Donald J. Pochopien  
; REGISTRATION NUMBER: 32,167  
; REFERENCE/DOCKET NUMBER: 820.005/11850US05  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 312/707-8889  
; TELEFAX: 312/707-9155  
; TELEX:  
; INFORMATION FOR SEQ ID NO: 17:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 157 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-394-600B-17

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
Db 1 VRSSRTPSDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60

QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTVPVNLSSAIRSPCQRETPEGAEANPWYEPYVL 120  
Db 61 QVLFKGQGCPSHTVLLTHTISRIASVYQTVPVNLSSAIRSPCQRETPEGAEANPWYEPYVL 120

QY 121 GGVFQLEKGRDLSAEINRPDYLDFAESGVYFGIALL 157  
Db 121 GGVFQLEKGRDLSAEINRPDYLDFAESGVYFGIALL 157

RESULT 11  
US-08-500-860A-35  
; Sequence 35, Application US/08500860A  
; Patent No. 5891679  
; GENERAL INFORMATION:  
; APPLICANT: LUCAS, RUDOLPH  
; APPLICANT: DE BAETSELIER, PATRICK  
; APPLICANT: FRANSEN, LUCIE  
; APPLICANT: SABLOW, ERWIN  
; TITLE OF INVENTION: TNF-MUTEINS, A PROCESS FOR PREPARING THEM AND  
; TITLE OF INVENTION: THEIR USE AS ACTIVE SUBSTANCES IN PHARMACEUTICAL COMPOSITIONS  
; NUMBER OF SEQUENCES: 36  
; CORRESPONDENCE ADDRESS:

; ADDRESSEE: NIXON & VANDERHVE P.C.  
; STREET: 1100 NORTH GLEBE ROAD  
; CITY: ARLINGTON  
; STATE: VIRGINIA  
; COUNTRY: U.S.A.  
; ZIP: 22201-4714  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/500,860A  
; FILING DATE:  
; CLASSIFICATION: 435  
; ATTORNEY/AGENT INFORMATION:  
; NAME: BYRNE, THOMAS E.  
; REGISTRATION NUMBER: 32,205  
; REFERENCE/DOCKET NUMBER: 1487-8  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (703)816-4000  
; TELEFAX: (703)816-4100  
; TELEX: 200797 NIXN UR  
; INFORMATION FOR SEQ ID NO: 35:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 157 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
US-08-500-860A-35

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
Db 1 VRSSRTPSDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60

QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTVPVNLSSAIRSPCQRETPEGAEANPWYEPYVL 120  
Db 61 QVLFKGQGCPSHTVLLTHTISRIASVYQTVPVNLSSAIRSPCQRETPEGAEANPWYEPYVL 120

QY 121 GGVFQLEKGRDLSAEINRPDYLDFAESGVYFGIALL 157  
Db 121 GGVFQLEKGRDLSAEINRPDYLDFAESGVYFGIALL 157

RESULT 12  
US-08-192-861A-1  
; Sequence 1, Application US/08192861A  
; Patent No. 5919452  
; GENERAL INFORMATION:  
; APPLICANT: Le, Junming  
; APPLICANT: Valcek, Jan  
; APPLICANT: Daddona, Peter E.  
; APPLICANT: Ghayeb, John  
; APPLICANT: Knight, David M.  
; APPLICANT: Siegel, Scott A.  
; TITLE OF INVENTION: METHODS OF TREATING TNF-MEDIATED DISEASE USING  
; TITLE OF INVENTION: CHIMERIC ANTI-TNF ANTIBODIES (As Amended)  
; NUMBER OF SEQUENCES: 19  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.  
; STREET: Two Militia Drive  
; CITY: Lexington  
; STATE: Massachusetts  
; COUNTRY: USA  
; ZIP: 02173  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/192,861A  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/013,413  
FILING DATE: 02-FEB-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/010,406  
FILING DATE: 29-JAN-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/943,852  
FILING DATE: 11-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/853,606  
FILING DATE: 18-MAR-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/670,827  
FILING DATE: 18-MAR-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Brook, David E.  
REGISTRATION NUMBER: 22,592  
REFERENCE/DOCKET NUMBER: NYU93-01M2  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (781) 861-6240  
TELEFAX: (781) 861-9540  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-192-861A-1

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVAVNPAQEGQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDPKVAHVAVNPAQEGQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGGCGPSTHVLLTHTSIRAVSYQTPVNLISAIRSPCQRETPGAEANPWYEPYIL 120  
DB 61 QVLFKGCGCPSTHVLLTHTSIRAVSYQTPVNLISAIRSKPCQRETPGAEAKPWYEPYIL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 13  
US-08-600-783-5  
Sequence 5, Application US/08600783  
Patent No. 5962267  
GENERAL INFORMATION:  
APPLICANT: SHIN, Hang Cheol  
APPLICANT: CHANG, Seung Gu  
APPLICANT: KIM, Dae Young  
APPLICANT: KIM, Chong Suhll  
TITLE OF INVENTION: Proinsulin Derivative and Process  
TITLE OF INVENTION: for Producing Human Insulin  
NUMBER OF SEQUENCES: 36  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: SHIN, Hang Cheol  
STREET: Ssangma-Hansein Apt. 102-1206,  
STREET: #245 Cholsan-dong  
CITY: Kwangmyung-shi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 423-030  
ADDRESSEE: CHANG, Seung Gu

STREET: Hyundai Apt. 71-203, Apkujong-dong,  
STREET: Kangnam-ku  
CITY: Seoul  
STATE: Seoul  
COUNTRY: Republic of Korea  
ZIP: 135-110  
ADDRESSEE: KIM, Dae Young  
STREET: Sosa Jukong Apt. 108-202, Sosa Bon-dong,  
STREET: Sosa-ku  
CITY: Bucheon-shi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 422-230  
ADDRESSEE: KIM, Chong Suhll  
STREET: Garden Heights Apt. 202-801, #100,  
STREET: Hwangkeum-dong, Soosung-ku  
CITY: Taegu  
STATE: Taegu  
COUNTRY: Republic of Korea  
ZIP: 706-040  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy Disk, 3.5 inch, 1.44MB storage  
COMPUTER: IBM PC/AT  
OPERATING SYSTEM: MS-DOS  
SOFTWARE: Word Perfect 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/600,783  
FILING DATE:  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: KR 95-2751  
FILING DATE: 15-FEB-1995  
ATTORNEY/AGENT INFORMATION:  
NAME: Shahan Islam  
REGISTRATION NUMBER: 32,507  
REFERENCE/DOCKET NUMBER:  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (212) 278-1000  
TELEFAX: (212) 953-7249  
INFORMATION FOR SEQ ID NO: 5:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-600-783-5

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVAVNPAQEGQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDPKVAHVAVNPAQEGQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGGCGPSTHVLLTHTSIRAVSYQTPVNLISAIRSPCQRETPGAEANPWYEPYIL 120  
DB 61 QVLFKGCGCPSTHVLLTHTSIRAVSYQTPVNLISAIRSKPCQRETPGAEAKPWYEPYIL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 14  
US-08-584-031-13  
Sequence 13, Application US/08584031A  
Patent No. 6030945  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi J.  
TITLE OF INVENTION: APO-2 LIGAND  
FILE REFERENCE: 11669.22US03

; CURRENT APPLICATION NUMBER: US/08/584,031A  
; CURRENT FILING DATE: 1996-01-09  
; NUMBER OF SEQ ID NOS: 17  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO 13  
; LENGTH: 157  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-08-584-031-13

Query Match 95.7%; Score 779; DB 2; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGQGPCSTHVLTHLTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPYIL 120  
DB 61 QVLFSGQGPCSTHVLTHLTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPYIL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGOVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGOVYFGIIAL 157

RESULT 15  
US-08-714-960B-1  
; Sequence 1. Application US/08714960B  
; Patent No. 6121237  
; GENERAL INFORMATION:  
; APPLICANT: RATHJEN, Deborah A  
; APPLICANT: FERRANTE, Antonio  
; TITLE OF INVENTION: Neutrophil Stimulating Peptides  
; NUMBER OF SEQUENCES: 19  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: BANNER & WITCOFF, LTD.  
; STREET: 10 S. Wacker Drive, Suite 3000  
; CITY: Chicago  
; STATE: Illinois  
; COUNTRY: USA  
; ZIP: 60606  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: IBM compatible PC/MS-DOS  
; SOFTWARE: WordPerfect version 6.1  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/714,960B  
; FILING DATE: 17-SEP-1996  
; CLASSIFICATION: 514  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: AU PJ9065  
; FILING DATE: 12-MAR-1990  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: PCT/AU91/00086  
; FILING DATE: 12-MAR-1991  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 07/930,415  
; FILING DATE: 09-NOV-1992  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/107,235  
; FILING DATE: 16-AUG-1993  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Reis, Robert H.  
; REGISTRATION NUMBER: 32,168  
; REFERENCE/DOCKET NUMBER: 92,622-B  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (312) 715-1000  
; TELEFAX: (312) 715-1234  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:

; LENGTH: 157 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: not relevant  
; MOLECULE TYPE: protein  
; FEATURE:  
; NAME/KEY: Protein  
; LOCATION: 1..157  
; OTHER INFORMATION: /note= "Human TNF"  
US-08-714-960B-1  
Query Match 95.7%; Score 779; DB 2; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGQGPCSTHVLTHLTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPYIL 120  
DB 61 QVLFSGQGPCSTHVLTHLTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPYIL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGOVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGOVYFGIIAL 157

Search completed: May 5, 2006, 11:27:11  
Job time : 16.25 secs

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:23 ; Search time 45.5 Seconds  
(without alignments)  
1441.741 Million cell updates/sec

Title: US-10-668-178-3  
Perfect score: 814  
Sequence: 1 VRSSRTPSDMPVAHVANP.....RPDYLDFAESGGVYFGIIAL 157

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications AA Main:\*

- 1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pgp:\*
- 2: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pgp:\*
- 3: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pgp:\*
- 4: /cgn2\_6/ptodata/1/pubpaa/US10A\_PUBCOMB.pgp:\*
- 5: /cgn2\_6/ptodata/1/pubpaa/US10B\_PUBCOMB.pgp:\*
- 6: /cgn2\_6/ptodata/1/pubpaa/US11\_PUBCOMB.pgp:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	814	100.0	157	4	US-10-354-985-3
2	814	100.0	157	5	US-10-668-178-3
3	814	100.0	157	5	US-10-668-178-13
4	779	95.7	157	3	US-09-756-301A-1
5	779	95.7	157	3	US-09-927-703-1
6	779	95.7	157	3	US-09-854-280-19
7	779	95.7	157	3	US-09-934-465-13
8	779	95.7	157	3	US-09-766-535A-1
9	779	95.7	157	3	US-09-854-208-19
10	779	95.7	157	3	US-09-756-161A-1
11	779	95.7	157	3	US-09-903-327A-7
12	779	95.7	157	3	US-09-756-398B-1
13	779	95.7	157	3	US-09-897-724-1
14	779	95.7	157	4	US-10-010-229-1
15	779	95.7	157	4	US-10-043-450-1
16	779	95.7	157	4	US-10-044-534-1
17	779	95.7	157	4	US-10-059-007A-1
18	779	95.7	157	4	US-10-043-432-1
19	779	95.7	157	4	US-10-119-621-1
20	779	95.7	157	4	US-10-208-145-1
21	779	95.7	157	4	US-10-262-630-9
22	779	95.7	157	4	US-10-305-347A-9
23	779	95.7	157	4	US-10-138-845-1
24	779	95.7	157	4	US-10-227-488-1
25	779	95.7	157	4	US-10-170-812-7
26	779	95.7	157	4	US-10-187-121-1
27	779	95.7	157	4	US-10-176-460-1

28	779	95.7	157	4	US-10-186-559-1	Sequence 1, Appli
29	779	95.7	157	4	US-10-371-961-1	Sequence 1, Appli
30	779	95.7	157	4	US-10-200-795-1	Sequence 1, Appli
31	779	95.7	157	4	US-10-319-011-1	Sequence 1, Appli
32	779	95.7	157	4	US-10-371-443-1	Sequence 1, Appli
33	779	95.7	157	4	US-10-379-866-1	Sequence 1, Appli
34	779	95.7	157	4	US-10-371-962-1	Sequence 1, Appli
35	779	95.7	157	4	US-10-354-985-1	Sequence 1, Appli
36	779	95.7	157	4	US-10-397-786A-1	Sequence 1, Appli
37	779	95.7	157	4	US-10-665-971-1	Sequence 1, Appli
38	779	95.7	157	4	US-10-637-759-1	Sequence 1, Appli
39	779	95.7	157	4	US-10-327-619-1	Sequence 1, Appli
40	779	95.7	157	4	US-10-774-118-1	Sequence 1, Appli
41	779	95.7	157	4	US-10-394-471B-17	Sequence 17, Appl
42	779	95.7	157	5	US-10-861-685-13	Sequence 13, Appl
43	779	95.7	157	5	US-10-668-178-1	Sequence 1, Appli
44	779	95.7	157	5	US-10-957-134-1	Sequence 1, Appli
45	779	95.7	157	5	US-10-727-155-265	Sequence 265, App

## ALIGNMENTS

RESULT 1

US-10-354-985-3

; Sequence 3, Application US/10354985

; Publication No. US20040001802A1

; GENERAL INFORMATION:

; APPLICANT: MAYUMI, Tadanori et al.

; TITLE OF INVENTION: PHYSIOLOGICALLY ACTIVE COMPLEX

; FILE REFERENCE: MAYUMI=2

; CURRENT APPLICATION NUMBER: US/10/354,985

; CURRENT FILING DATE: 2003-01-31

; PRIOR APPLICATION NUMBER: JP 083509/2002

; PRIOR FILING DATE: 2002-03-25

; PRIOR APPLICATION NUMBER: JP 1185387/2002

; PRIOR FILING DATE: 2002-06-26

; NUMBER OF SEQ ID NOS: 12

; SOFTWARE: PatentIn version 3.2

; SEQ ID NO 3

; LENGTH: 157

; TYPE: PRT

; ORGANISM: Artificial

; FEATURE:

; OTHER INFORMATION: Variant protein of human tumor necrosis factor

US-10-354-985-3

Query Match	100.0%;	Score	814;	DB	4;	Length	157;
Best Local Similarity	100.0%;	Pred. No.	2.7e-80;				
Matches	157;	Conservative	0;	Mismatches	0;	Indels	0;
Gaps	0;						

  

Qy	1	VRSSRTPSDMPVAHVANPQASGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS	60
Db	1	VRSSRTPSDMPVAHVANPQASGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS	60

  

Qy	61	QVLFSGGCGPSTHVLTHLTISRIASVYQTPVNLLSAIRSPCQRETPGAGANPWYEPYIL	120
Db	61	QVLFSGGCGPSTHVLTHLTISRIASVYQTPVNLLSAIRSPCQRETPGAGANPWYEPYIL	120

  

Qy	121	GGVFOLEPGDRLSAEINRPDYLDFAESGGVYFGIIAL	157
Db	121	GGVFOLEPGDRLSAEINRPDYLDFAESGGVYFGIIAL	157

RESULT 2

US-10-668-178-3

; Sequence 3, Application US/10668178

; Publication No. US20050013795A1

; GENERAL INFORMATION:

; APPLICANT: KASUSHIKI, KATSHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO

; APPLICANT: MAYUMI, Tadanori

; APPLICANT: TSUTSUMI, Yasuo

; APPLICANT: NAKAGAWA, Shinsaku



```
; APPLICANT: IKEGAMI, Hakuo
; TITLE OF INVENTION: Biologically-active conjugate
; FILE REFERENCE: MAYUMI2A
; CURRENT APPLICATION NUMBER: US/10/668,178
; CURRENT FILING DATE: 2003-09-24
; PRIOR APPLICATION NUMBER: JP 83509/2002
; PRIOR FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: JP 185387/2002
; PRIOR FILING DATE: 2002-06-26
; NUMBER OF SEQ ID NOS: 16
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 3
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)
US-10-668-178-3

Query Match          100.0%; Score 814; DB 5; Length 157;
Best Local Similarity 100.0%; Pred. No. 2.7e-80;
Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRNALLANGVELRDNLVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRNALLANGVELRDNLVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120
   |||||
Db 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120
   |||||

QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIIAL 157
   |||||
Db 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIIAL 157
   |||||

RESULT 3
US-10-668-178-13
; Sequence 13, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:
; APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
; APPLICANT: MAYUMI, Tadanori
; APPLICANT: TSUTSUMI, Yasuo
; APPLICANT: NAKAGAWA, Shinsaku
; APPLICANT: IKEGAMI, Hakuo
; TITLE OF INVENTION: Biologically-active conjugate
; FILE REFERENCE: MAYUMI2A
; CURRENT APPLICATION NUMBER: US/10/668,178
; CURRENT FILING DATE: 2003-09-24
; PRIOR APPLICATION NUMBER: JP 83509/2002
; PRIOR FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: JP 185387/2002
; PRIOR FILING DATE: 2002-06-26
; NUMBER OF SEQ ID NOS: 16
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 13
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Synthetic Construct
US-10-668-178-13

Query Match          100.0%; Score 814; DB 5; Length 157;
Best Local Similarity 100.0%; Pred. No. 2.7e-80;
Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRNALLANGVELRDNLVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRNALLANGVELRDNLVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120
   |||||
Db 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120
   |||||
```

```
Db 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120
   |||||
QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIIAL 157
   |||||
Db 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIIAL 157
   |||||

RESULT 4
US-09-756-301A-1
; Sequence 1, Application US/09756301A
; Patent No. US20010027249A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-008
; CURRENT APPLICATION NUMBER: US/09/756.301A
; CURRENT FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-756-301A-1

Query Match          95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRNALLANGVELRDNLVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRNALLANGVELRDNLVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120
   |||||
Db 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120
   |||||

QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIIAL 157
   |||||
Db 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIIAL 157
   |||||

RESULT 5
US-09-927-703-1
```

```
; Sequence 1, Application US/09927703
; Patent No. US2002022720A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Wilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Khayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-013
; CURRENT APPLICATION NUMBER: US/09/927,703
; CURRENT FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-927-703-1

Query Match 95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVAVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTSDMPVAHVAVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYPIYL 120
DB 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYPIYL 120
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 6
US-09-854-280-19
; Sequence 19, Application US/09854280
; Patent No. US20020052027A1
; GENERAL INFORMATION:
; APPLICANT: Chen, Jian
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Goddard, Audrey
; APPLICANT: Gurney, Austin
; APPLICANT: Li, Hanzhong

; APPLICANT: Wood, William I.
; TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES THEREOF
; FILE REFERENCE: P1381RIC2
; CURRENT APPLICATION NUMBER: US/09/854,280
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: US 09/311,832
; PRIOR FILING DATE: 1999-05-14
; PRIOR APPLICATION NUMBER: US 60/085,579
; PRIOR FILING DATE: 1998-05-15
; PRIOR APPLICATION NUMBER: US 60/113,621
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 19
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-854-280-19

Query Match 95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVAVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTSDMPVAHVAVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYPIYL 120
DB 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYPIYL 120
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 7
US-09-934-465-13
; Sequence 13, Application US/09934465
; Patent No. US2002010233A1
; GENERAL INFORMATION:
; APPLICANT: Ashkenazi, Avi J.
; TITLE OF INVENTION: APO-2 LIGAND
; FILE REFERENCE: 11669.22US03
; CURRENT APPLICATION NUMBER: US/09/934,465
; CURRENT FILING DATE: 2001-08-21
; PRIOR APPLICATION NUMBER: 08/584,031
; PRIOR FILING DATE: 1996-01-09
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-934-465-13

Query Match 95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVAVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTSDMPVAHVAVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYPIYL 120
DB 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYPIYL 120
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 8
```

```
US-09-766-535A-1
; Sequence 1, Application US/09766535A
; Patent No. US20020106372A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-010
; CURRENT APPLICATION NUMBER: US/09/766,535A
; CURRENT FILING DATE: 2001-01-18
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-766-535A-1

Query Match          95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPOAEGQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKPVAHVANPOAEGQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAEANPWTEPIYL 120
Db 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAEANPWTEPIYL 120
QY 121 GGVFOLEPGDRLSAEINRPDYLDFAESGVYFGIALL 157
Db 121 GGVFOLEKGDRLSAEINRPDYLDFAESGVYFGIALL 157

RESULT 10
US-09-756-161A-1
; Sequence 1, Application US/09756161A
; Patent No. US20020132307A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-007
; CURRENT APPLICATION NUMBER: US/09/756,161A
; CURRENT FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-756-161A-1

Query Match          95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPOAEGQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKPVAHVANPOAEGQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAEANPWTEPIYL 120
Db 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAEANPWTEPIYL 120
QY 121 GGVFOLEPGDRLSAEINRPDYLDFAESGVYFGIALL 157
Db 121 GGVFOLEKGDRLSAEINRPDYLDFAESGVYFGIALL 157

RESULT 9
US-09-854-208-19
; Sequence 19, Application US/09854208
; Patent No. US20020106743A1
; GENERAL INFORMATION:
; APPLICANT: Chen, Jian
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Goddard, Audrey
; APPLICANT: Gurney, Austin
; APPLICANT: Li, Hanzhong
; APPLICANT: Wood, William I.
```

```
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-756-161A-1
```

Query Match	95.78;	Score 779;	DB 3;	Length 157;
Best Local Similarity	96.2;	Pred. No. 1.7e-76;		
Matches 151;	Conservative 1;	Mismatches 5;	Indels 0;	Gaps 0;
QY	1	VRSSRTPSDMPVAHVVANFAEQGLQWLNRRANALLANGVELRDNLVWPSEGLYLIYS	60	
Db	1	VRSSRTPSDKPAHVVVANFAEQGLQWLNRRANALLANGVELRDNLVWPSEGLYLIYS	60	
QY	61	QVLFSGGCGCPSHTVLLTHTTISRIAVSYQTVPVNLISAIRSPCQRETPEGAANPWYEPIYL	120	
Db	61	QVLFKGGCGCSTHVLLTHTTISRIAVSYQTKNLLSAIKSPCQRETPEGAAPWYEPIYL	120	
QY	121	GGVFOLEPGDRLSAENRPDYLDPAESGVYFGIIAL	157	
Db	121	GGVFOLEKGRLSAENRPDYLDPAESGVYFGIIAL	157	

```

RESULT 11
US-09-903-327A-7
; Sequence 7, Application US/09903327A
; Patent No. US20020164333A1
; GENERAL INFORMATION:
; APPLICANT: Nemerow, Glen R.
; APPLICANT: Li, Brguang
; TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGETED DELIVERY OF THERAPEUTIC AGENTS
; TITLE OF INVENTION: GENE
; TITLE OF INVENTION: DELIVERY
; FILE REFERENCE: 22908-1228
; CURRENT APPLICATION NUMBER: US/09/903,327A
; CURRENT FILING DATE: 2001-07-10
; PRIOR APPLICATION NUMBER: 09/613,017
; PRIOR FILING DATE: 2000-07-10
; NUMBER OF SEQ ID NOS: 33
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 7
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Human
; FEATURE:
; NAME/KEY: PEPTIDE
; LOCATION: (0)...(0)
; OTHER INFORMATION: Tumor necrosis factor-alpha (TNF alpha, mature
; OTHER INFORMATION: peptide)
; US-09-903-327A-7

```

Query Match	95.7%	Score 779;	DB 3;	Length 157;
Best Local Similarity	96.2%	Pred. No. 1.7e-76;		
Matches 151;	Conservative 1;	Mismatches 5;	Indels 0;	Gaps 0;
Qy	1	VRSSRTPSDMPVAHVANPOAEGQLWLNRRANALLANGVELRDNLVPSSEGLYLIYS	60	
Db	1	VRSSRTPSDKPAHVANPOAEGQLWLNRRANALLANGVELRDNLVPSSEGLYLIYS	60	
Qy	61	QVLPSGGGCPSTHVLTHTISRIVASYQTPVNLISAIRSPCORETPEGAENPMWPEIYL	120	
Db	61	QVLPSGGGCPSTHVLTHTISRIVASYQTKNLISAIRSPCORETPEGAENPMWPEIYL	120	
Qy	121	GGVFQLEPGRLSAEINRPDYLDFAESGVVFQIIAL	157	
Db	121	GGVFQLEPGRLSAEINRPDYLDFAESGVVFQIIAL	157	

RESULT 12  
US-09-756-398B-1  
; Sequence 1, Application US/09756398B

```

; Publication No. US20030017584A1
;
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghrayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor
;

```

```

FILE REFERENCE: 09-03-1005-0000
CURRENT APPLICATION NUMBER: US/09/756,398B
CURRENT FILING DATE: 2001-01-08
PRIOR APPLICATION NUMBER: U.S. 07/133,119
PRIOR FILING DATE: 1998-08-12
PRIOR APPLICATION NUMBER: U.S. 08/570,674
PRIOR FILING DATE: 1995-12-11
PRIOR APPLICATION NUMBER: U.S. 08/324,799
PRIOR FILING DATE: 1994-10-18
PRIOR APPLICATION NUMBER: U.S. 08/192,102
PRIOR FILING DATE: 1994-02-04
PRIOR APPLICATION NUMBER: U.S. 08/192,861
PRIOR FILING DATE: 1994-02-04
PRIOR APPLICATION NUMBER: U.S. 08/192,093
PRIOR FILING DATE: 1994-02-04
PRIOR APPLICATION NUMBER: U.S. 08/010,406
PRIOR FILING DATE: 1993-01-29
PRIOR APPLICATION NUMBER: U.S. 08/013,413
PRIOR FILING DATE: 1993-02-02
PRIOR APPLICATION NUMBER: U.S. 07/943,852
PRIOR FILING DATE: 1992-09-11
PRIOR APPLICATION NUMBER: U.S. 07/853,606
PRIOR FILING DATE: 1992-03-18
PRIOR APPLICATION NUMBER: U.S. 07/670,827
PRIOR FILING DATE: 1991-03-18
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 1
LENGTH: 157
TYPE: PRT
ORGANISM: Homo sapiens
US-09-756-398B-1

```

```

RESULT 13
US-09-897-724-1
; Sequence 1, Application US/09897724
; Publication No. US20030175837A1
; GENERAL INFORMATION:
; APPLICANT: Jc, Junning
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor

```

```
; FILE REFERENCE: 0975.1005-012
; CURRENT APPLICATION NUMBER: US/09/897,724
; CURRENT FILING DATE: 2001-07-02
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-897-724-1

Query Match          95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTSDKPKVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQCPSTHLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120
DB 61 QVLFKGQCPSTHLLTHTTISRIVSYQTKVNLLSAIRSPCORETPEGAEAKPWYEPIYL 120
QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIIAL 157
DB 121 GGVFQLEKGRDLSABINRPDYLDFAESGVYFGIIAL 157

RESULT 14
US-10-010-229-1
; Sequence 1, Application US/10010229
; Publication No. US2002014805A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Grayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-013
; CURRENT APPLICATION NUMBER: US/10/010,229
; CURRENT FILING DATE: 2001-12-07
; PRIOR APPLICATION NUMBER: US/09/927,703
; PRIOR FILING DATE: 2001-08-10
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-010-229-1

Query Match          95.7%; Score 779; DB 4; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTSDKPKVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQCPSTHLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120
DB 61 QVLFKGQCPSTHLLTHTTISRIVSYQTKVNLLSAIRSPCORETPEGAEAKPWYEPIYL 120
QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIIAL 157
DB 121 GGVFQLEKGRDLSABINRPDYLDFAESGVYFGIIAL 157

RESULT 15
US-10-043-450-1
; Sequence 1, Application US/10043450
; Publication No. US20020141996A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Grayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-013
; CURRENT APPLICATION NUMBER: US/10/043,450
; CURRENT FILING DATE: 2002-01-10
; PRIOR APPLICATION NUMBER: 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-043-450-1

Query Match          95.7%; Score 779; DB 4; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTSDKPKVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQCPSTHLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120
DB 61 QVLFKGQCPSTHLLTHTTISRIVSYQTKVNLLSAIRSPCORETPEGAEAKPWYEPIYL 120
QY 121 GGVFQLEPGDRLSABINRPDYLDFAESGVYFGIIAL 157
DB 121 GGVFQLEKGRDLSABINRPDYLDFAESGVYFGIIAL 157
```

Db 121 GGVFQLEKGDRLSAEINRPDYLLDFAESGOVYFGIAL 157

Search completed: May 5, 2006, 11:30:22  
Job time : 45.5 secs

**THIS PAGE BLANK (USPTO)**



GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:47 ; Search time 9.75 Seconds  
(without alignments)  
745.303 Million cell updates/sec

Title: US-10-668-178-3

Perfect score: 814

Sequence: 1 VRSSRTPSDMPVHVANP.....RPDYLDFAESGQVYFGIALL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 235405 seqs, 46284737 residues

Total number of hits satisfying chosen parameters: 235405

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

- Published Applications\_AA\_New:\*
- 1: /SIDSS5/ptodata/1/pubpaa/US08\_NEW\_PUB.pep.\*
  - 2: /SIDSS5/ptodata/1/pubpaa/US06\_NEW\_PUB.pep.\*
  - 3: /SIDSS5/ptodata/1/pubpaa/US07\_NEW\_PUB.pep.\*
  - 4: /SIDSS5/ptodata/1/pubpaa/US08\_NEW\_PUB.pep.\*
  - 5: /SIDSS5/ptodata/1/pubpaa/PCT\_NEW\_PUB.pep.\*
  - 6: /SIDSS5/ptodata/1/pubpaa/US09\_NEW\_PUB.pep.\*
  - 7: /SIDSS5/ptodata/1/pubpaa/US09\_NEW\_PUB.pep.\*
  - 8: /SIDSS5/ptodata/1/pubpaa/US10\_NEW\_PUB.pep.\*
  - 9: /SIDSS5/ptodata/1/pubpaa/US10\_NEW\_PUB.pep.\*
  - 10: /SIDSS5/ptodata/1/pubpaa/US11\_NEW\_PUB.pep.\*
  - 11: /SIDSS5/ptodata/1/pubpaa/US11\_NEW\_PUB.pep.\*
  - 12: /SIDSS5/ptodata/1/pubpaa/US60\_NEW\_PUB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	779	95.7	157	11	US-11-010-954-1
2	779	95.7	157	11	US-11-053-750-1
3	779	95.7	157	11	US-11-053-749-1
4	779	95.7	157	11	US-11-108-001-12
5	779	95.7	157	11	US-11-170-753-1
6	779	95.7	157	11	US-11-170-359-1
7	779	95.7	157	11	US-11-181-030-1
8	779	95.7	157	11	US-11-182-033-1
9	779	95.7	157	11	US-11-195-589-1
10	779	95.7	158	11	US-11-082-544-4
11	779	95.7	164	11	US-11-108-001-2
12	779	95.7	170	8	US-10-450-953-35
13	779	95.7	180	11	US-11-082-544-8
14	779	95.7	233	9	US-10-523-328-1
15	779	95.7	233	11	US-11-246-387-8
16	770	94.6	157	9	US-10-504-389A-55
17	634.5	77.9	235	11	US-11-032-797-8
18	488	60.0	104	11	US-11-065-669-5
19	488	60.0	104	11	US-11-249-714-5
20	213.5	26.2	177	9	US-10-999-866-61
21	213.5	26.2	205	9	US-10-995-561-1028

22	213.5	26.2	205	9	US-10-995-561-1029	Sequence 1029, Ap
23	171.5	21.1	204	11	US-11-136-341A-31	Sequence 31, Appl
24	171.5	21.1	240	11	US-11-136-341A-1	Sequence 1, Appl
25	169.5	20.8	240	9	US-10-987-663-6	Sequence 6, Appl
26	166.5	20.5	179	8	US-10-861-934-14	Sequence 14, Appl
27	166.5	20.5	179	9	US-10-861-934-14	Sequence 14, Appl
28	166.5	20.5	278	8	US-10-861-934-16	Sequence 16, Appl
29	166.5	20.5	278	8	US-10-861-934-16	Sequence 16, Appl
30	166.5	20.5	278	9	US-10-861-934-16	Sequence 16, Appl
31	166.5	20.5	278	9	US-10-861-934-26	Sequence 26, Appl
32	162	19.9	239	11	US-11-136-341A-2	Sequence 2, Appl
33	161.5	19.8	137	8	US-10-861-934-10	Sequence 10, Appl
34	161.5	19.8	137	9	US-10-861-934-10	Sequence 10, Appl
35	161.5	19.8	138	8	US-10-861-934-12	Sequence 12, Appl
36	161.5	19.8	138	9	US-10-861-934-12	Sequence 12, Appl
37	161.5	19.8	179	8	US-10-861-934-22	Sequence 22, Appl
38	161.5	19.8	179	9	US-10-861-934-22	Sequence 22, Appl
39	161.5	19.8	279	8	US-10-861-934-24	Sequence 24, Appl
40	161.5	19.8	279	8	US-10-861-934-32	Sequence 32, Appl
41	161.5	19.8	279	9	US-10-861-934-24	Sequence 24, Appl
42	161.5	19.8	279	9	US-10-861-934-32	Sequence 32, Appl
43	161.5	19.8	279	11	US-11-032-797-5	Sequence 5, Appl
44	160	19.7	239	11	US-11-136-341A-3	Sequence 3, Appl
45	157.5	19.3	137	8	US-10-861-934-18	Sequence 18, Appl

ALIGNMENTS

RESULT 1

- US-11-010-954-1
- ; Sequence 1, Application US/11010954
  - ; Publication No. US20050249735A1
  - ; GENERAL INFORMATION:
  - ; APPLICANT: Le Junming
  - ; APPLICANT: Vilcek, Jan
  - ; APPLICANT: Daddona, Peter
  - ; APPLICANT: Ghayeb, John
  - ; APPLICANT: Knight, David
  - ; APPLICANT: Siegel, Scott
  - ; APPLICANT: Shealy, David
  - ; TITLE OF INVENTION: Methods of Treating Ankylosing Spondylitis Using Anti-TNF Antibody
  - ; TITLE OF INVENTION: and Peptides of Human Tumor Necrosis Factor
  - ; FILE REFERENCE: 0975.1005-043
  - ; CURRENT APPLICATION NUMBER: US/11/010,954
  - ; CURRENT FILING DATE: 2004-12-13
  - ; PRIOR APPLICATION NUMBER: US 10/637,759
  - ; PRIOR FILING DATE: 2003-08-08
  - ; PRIOR APPLICATION NUMBER: US 09/920,137
  - ; PRIOR FILING DATE: 2001-08-01
  - ; PRIOR APPLICATION NUMBER: US 09/927,703
  - ; PRIOR FILING DATE: 2001-08-10
  - ; PRIOR APPLICATION NUMBER: US 09/756,398
  - ; PRIOR FILING DATE: 2001-01-08
  - ; PRIOR APPLICATION NUMBER: US 60/236,826
  - ; PRIOR FILING DATE: 2000-09-29
  - ; PRIOR APPLICATION NUMBER: US 60/223,360
  - ; NUMBER OF SEQ ID NOS: 30
  - ; SOFTWARE: FastSeq for Windows Version 4.0
  - ; SEQ ID NO 1
  - ; LENGTH: 157
  - ; TYPE: PRT
  - ; ORGANISM: Homo sapiens
- US-11-010-954-1

Query Match	95.7%	Score	779	DB	11	Length	157
Best Local Similarity	96.2%	Pred. No.	1.3e-75				
Matches	151	Conservative	1	Mismatches	5	Indels	0
Gaps	0						
Qy	1	VRSSRTPSDMPVHVANPQASGQQLMNRNALLANGVELRDNQLVVPSEGLYLIYS	60				
Db	1	VRSSRTPSDMPVHVANPQASGQQLMNRNALLANGVELRDNQLVVPSEGLYLIYS	60				

```
Qy 61 QVLFSGQGCPSPTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAENPWYEPIYL 120
Db 61 QVLFKGQGCPSPTHVLLTHTISRIAVSYQTKVNLLSAIRSPCQRETPEGAENPWYEPIYL 120
Qy 121 GGVFQLEPGDRLSAENRPDYLDFAESGQVYFGIALL 157
Db 121 GGVFQLEKGDRLSAENRPDYLDFAESGQVYFGIALL 157
```

## RESULT 2

```
US-11-053-750-1
; Sequence 1, Application US/11053750
; Publication No. US20050255104A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Chrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Scallan, Bernard
; TITLE OF INVENTION: Methods of Treating Psoriasis Using
; Anti-TNF Receptor Fusion Proteins
; FILE REFERENCE: 0975.1005-045
; CURRENT APPLICATION NUMBER: US/11/053,750
; CURRENT FILING DATE: 2005-02-07
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-053-750-1
```

```
Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDMPVAHVANPQAEQOLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKPVAVHVANPQAEQOLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60
Qy 61 QVLFSGQGCPSPTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAENPWYEPIYL 120
Db 61 QVLFKGQGCPSPTHVLLTHTISRIAVSYQTKVNLLSAIRSPCQRETPEGAENPWYEPIYL 120
Qy 121 GGVFQLEPGDRLSAENRPDYLDFAESGQVYFGIALL 157
Db 121 GGVFQLEKGDRLSAENRPDYLDFAESGQVYFGIALL 157
```

## RESULT 3

```
US-11-053-749-1
; Sequence 1, Application US/11053749
; Publication No. US20050260201A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Chrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Scallan, Bernard
; TITLE OF INVENTION: Methods of Treating Rheumatoid Arthritis
; Using Anti-TNF Receptor Fusion Proteins
; FILE REFERENCE: 0975.1005-040
; CURRENT APPLICATION NUMBER: US/11/053,749
; CURRENT FILING DATE: 2005-02-07
; PRIOR APPLICATION NUMBER: US/09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-053-749-1

Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDMPVAHVANPQAEQOLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKPVAVHVANPQAEQOLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60
Qy 61 QVLFSGQGCPSPTHVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAENPWYEPIYL 120
Db 61 QVLFKGQGCPSPTHVLLTHTISRIAVSYQTKVNLLSAIRSPCQRETPEGAENPWYEPIYL 120
Qy 121 GGVFQLEPGDRLSAENRPDYLDFAESGQVYFGIALL 157
Db 121 GGVFQLEKGDRLSAENRPDYLDFAESGQVYFGIALL 157

RESULT 4
US-11-108-001-12
; Sequence 12, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John R.
; APPLICANT: Steed, Paul Michael
; APPLICANT: Zalevsky, Jonathan
; APPLICANT: Zymkowski, David Edmund
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
; RELATED DISORDERS
```

```
; FILE REFERENCE: A-68990-7
; CURRENT APPLICATION NUMBER: US/11/108,001
; CURRENT FILING DATE: 2005-04-14
; PRIOR APPLICATION NUMBER: US 10/963,994
; PRIOR FILING DATE: 2004-10-12
; PRIOR APPLICATION NUMBER: US 09/798,789
; PRIOR FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: US 09/945,150
; PRIOR FILING DATE: 2001-08-31
; PRIOR APPLICATION NUMBER: US 09/981,289
; PRIOR FILING DATE: 2001-10-15
; PRIOR APPLICATION NUMBER: US 10/262,630
; PRIOR FILING DATE: 2002-09-30
; PRIOR APPLICATION NUMBER: US 60/553,908
; PRIOR FILING DATE: 2004-03-17
; PRIOR APPLICATION NUMBER: US 60/510,430
; PRIOR FILING DATE: 2003-10-10
; PRIOR APPLICATION NUMBER: US 60/509,960
; PRIOR FILING DATE: 2003-10-09
; PRIOR APPLICATION NUMBER: US 60/528,275
; PRIOR FILING DATE: 2003-12-08
; PRIOR APPLICATION NUMBER: US 60/523,647
; PRIOR FILING DATE: 2003-11-20
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 12
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-108-001-12

Query Match          95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVAVNPAQEGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTPSDKPVAVHVAVNPAQEGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPEGAANPWYEPYIL 120
   |||||
Db 61 QVLFKGQGCPSHTVLLTHTTSRIASVYQTKVNLLSAIKSPCQRETPEGAANPWYEPYIL 120
   |||||

QY 121 GGVFQLEPGRLSAEINRPDYLDFAESGQVYFGIALL 157
   |||||
Db 121 GGVFQLEKGRLSAEINRPDYLDFAESGQVYFGIALL 157
   |||||

RESULT 5
US-11-170-753-1
; Sequence 1, Application US/11/10753
; Publication No. US2006013816A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Grayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods of Treating Psoriasis Using
; TITLE OF INVENTION: Human Anti-TNF Antibodies and Fragments
; FILE REFERENCE: 0975.1005-050
; CURRENT APPLICATION NUMBER: US/11/170,753
; CURRENT FILING DATE: 2005-06-29
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
```

```
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-170-753-1

Query Match          95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVAVNPAQEGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTPSDKPVAVHVAVNPAQEGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPEGAANPWYEPYIL 120
   |||||
Db 61 QVLFKGQGCPSHTVLLTHTTSRIASVYQTKVNLLSAIKSPCQRETPEGAANPWYEPYIL 120
   |||||

QY 121 GGVFQLEPGRLSAEINRPDYLDFAESGQVYFGIALL 157
   |||||
Db 121 GGVFQLEKGRLSAEINRPDYLDFAESGQVYFGIALL 157
   |||||

RESULT 6
US-11-179-359-1
; Sequence 1, Application US/11/179359
; Publication No. US20060018905A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Grayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods for Treating Systemic Lupus Erythematosus
; TITLE OF INVENTION: Using Anti-TNF Antibodies and Fragments Thereof
; FILE REFERENCE: 0975.1005-054
; CURRENT APPLICATION NUMBER: US/11/179,359
; CURRENT FILING DATE: 2005-07-12
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
```

; PRIOR FILING DATE: 1993-02-02  
; Remaining Prior Application data removed - See File Wrapper or PALM.  
; NUMBER OF SEQ ID NOS: 30  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 157  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-11-179-359-1

Query Match 95.7%; Score 779; DB 11; Length 157;  
Best Local Similarity 96.2%; Pred. No. 1.3e-75;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
Db 1 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
  
QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLSSAIRSPCORETPEGAEANPWPYPIYL 120  
Db 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLSSAIRSPCORETPEGAEANPWPYPIYL 120  
  
QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 7  
US-11-181-030-1  
; Sequence 1, Application US/11181030  
; Publication No. US20060018906A1  
; GENERAL INFORMATION:  
; APPLICANT: Le, Junming  
; APPLICANT: Wilcek, Jan  
; APPLICANT: Daddona, Peter  
; APPLICANT: Chrayeb, John  
; APPLICANT: Knight, David  
; APPLICANT: Siegel, Scott  
; TITLE OF INVENTION: Methods for Treating Sarcoidosis Using  
; TITLE OF INVENTION: Anti-TNF Antibodies and Fragments Thereof  
; FILE REFERENCE: 0975.1005-055  
; CURRENT APPLICATION NUMBER: US/11/181,030  
; PRIOR FILING DATE: 2005-07-13  
; PRIOR APPLICATION NUMBER: U.S. 09/927,703  
; PRIOR FILING DATE: 2001-08-10  
; PRIOR APPLICATION NUMBER: U.S. 09/756,398  
; PRIOR FILING DATE: 2001-01-08  
; PRIOR APPLICATION NUMBER: U.S. 09/133,119  
; PRIOR FILING DATE: 1998-08-12  
; PRIOR APPLICATION NUMBER: U.S. 08/570,674  
; PRIOR FILING DATE: 1993-12-11  
; PRIOR APPLICATION NUMBER: U.S. 08/324,799  
; PRIOR FILING DATE: 1994-10-18  
; PRIOR APPLICATION NUMBER: U.S. 08/192,102  
; PRIOR FILING DATE: 1994-02-04  
; PRIOR APPLICATION NUMBER: U.S. 08/192,861  
; PRIOR FILING DATE: 1994-02-04  
; PRIOR APPLICATION NUMBER: U.S. 08/192,093  
; PRIOR FILING DATE: 1994-02-04  
; PRIOR APPLICATION NUMBER: U.S. 08/010,406  
; PRIOR FILING DATE: 1993-01-29  
; PRIOR APPLICATION NUMBER: U.S. 08/013,413  
; PRIOR FILING DATE: 1993-02-02  
; Remaining Prior Application data removed - See File Wrapper or PALM.  
; NUMBER OF SEQ ID NOS: 30  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 157  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-11-181-030-1

Query Match 95.7%; Score 779; DB 11; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.3e-75;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
Db 1 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
  
QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLSSAIRSPCORETPEGAEANPWPYPIYL 120  
Db 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLSSAIRSPCORETPEGAEANPWPYPIYL 120  
  
QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 8  
US-11-182-033-1  
; Sequence 1, Application US/11182033  
; Publication No. US20060018907A1  
; GENERAL INFORMATION:  
; APPLICANT: Le, Junming  
; APPLICANT: Wilcek, Jan  
; APPLICANT: Daddona, Peter  
; APPLICANT: Chrayeb, John  
; APPLICANT: Knight, David  
; APPLICANT: Siegel, Scott  
; APPLICANT: Shealy, David  
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of Human  
; TITLE OF INVENTION: Tumor Necrosis Factor  
; FILE REFERENCE: 0975.1005-044  
; CURRENT APPLICATION NUMBER: US/11/182,033  
; CURRENT FILING DATE: 2005-07-14  
; PRIOR APPLICATION NUMBER: US 10/637,759  
; PRIOR FILING DATE: 2003-08-08  
; PRIOR APPLICATION NUMBER: US 09/920,137  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: US 09/927,703  
; PRIOR FILING DATE: 2001-08-10  
; PRIOR APPLICATION NUMBER: US 09/756,398  
; PRIOR FILING DATE: 2001-01-08  
; PRIOR APPLICATION NUMBER: US 60/236,826  
; PRIOR FILING DATE: 2000-09-29  
; PRIOR APPLICATION NUMBER: US 60/223,360  
; PRIOR FILING DATE: 2000-08-07  
; NUMBER OF SEQ ID NOS: 30  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 157  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-11-182-033-1

Query Match 95.7%; Score 779; DB 11; Length 157;  
Best Local Similarity 96.2%; Pred. No. 1.3e-75;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
Db 1 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
  
QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLSSAIRSPCORETPEGAEANPWPYPIYL 120  
Db 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLSSAIRSPCORETPEGAEANPWPYPIYL 120  
  
QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 9  
US-11-195-589-1  
; Sequence 1, Application US/11195589

Tue May 9 11:18:22 2006

```
; Publication No. US20060024310A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Wilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods of Treating TNFa-Mediated
; Tissue Injury Using Anti-TNF Antibodies and Peptides
; FILE REFERENCE: 0975.1005-042
; CURRENT APPLICATION NUMBER: US/11/195,589
; CURRENT FILING DATE: 2005-08-02
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: US 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: US 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: US 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: US 08/013,413
; PRIOR FILING DATE: 02-02-1993
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-11-195-589-1

Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db 1 VRSSRTSPDKPVAHVANPQAGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGGCGPSTHVLTHTSRIASVSYQTPVNLLSAIRSCQRETPEGAENPWYBPIYL 120
Db 61 QVLFSGGCGPSTHVLTHTSRIASVSYQTPVNLLSAIRSCQRETPEGAENPWYBPIYL 120
QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 10
US-11-082-544-4
; Sequence 4, Application US/11082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
; APPLICANT: Bermudes, G.
; APPLICANT: King, I.
; APPLICANT: Clairmont, C.
; APPLICANT: Lin, S.
; APPLICANT: Belcourt, M.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
; TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
; FILE REFERENCE: 8002-059
; CURRENT APPLICATION NUMBER: US/11/082,544
```

```
; CURRENT FILING DATE: 2005-03-17
; PRIOR APPLICATION NUMBER: US/09/645,415
; PRIOR FILING DATE: 2000-08-24
; PRIOR APPLICATION NUMBER: 60/157,581
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: 60/157,637
; PRIOR FILING DATE: 1999-10-04
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 4
; LENGTH: 158
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-11-082-544-4

Query Match 95.7%; Score 779; DB 11; Length 158;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db 2 VRSSRTSPDKPVAHVANPQAGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 61
QY 61 QVLFSGGCGPSTHVLTHTSRIASVSYQTPVNLLSAIRSCQRETPEGAENPWYBPIYL 120
Db 62 QVLFSGGCGPSTHVLTHTSRIASVSYQTPVNLLSAIRSCQRETPEGAENPWYBPIYL 121
QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 122 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 158

RESULT 11
US-11-108-001-2
; Sequence 2, Application US/11108001
; Publication No. US20050246562A1
; GENERAL INFORMATION:
; APPLICANT: Steed, Paul Michael
; APPLICANT: Zalevsky, Jonathan
; APPLICANT: Szymkowski, David Edmund
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
; FILE REFERENCE: A-68990-7
; CURRENT APPLICATION NUMBER: US/11/108,001
; CURRENT FILING DATE: 2005-04-14
; PRIOR APPLICATION NUMBER: US 10/963,994
; PRIOR FILING DATE: 2004-10-12
; PRIOR APPLICATION NUMBER: US 09/798,789
; PRIOR FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: US 09/945,150
; PRIOR FILING DATE: 2001-08-31
; PRIOR APPLICATION NUMBER: US 09/981,289
; PRIOR FILING DATE: 2001-10-15
; PRIOR APPLICATION NUMBER: US 10/262,630
; PRIOR FILING DATE: 2002-09-30
; PRIOR APPLICATION NUMBER: US 60/553,908
; PRIOR FILING DATE: 2004-03-17
; PRIOR APPLICATION NUMBER: US 60/510,430
; PRIOR FILING DATE: 2003-10-10
; PRIOR APPLICATION NUMBER: US 60/509,960
; PRIOR FILING DATE: 2003-10-09
; PRIOR APPLICATION NUMBER: US 60/528,275
; PRIOR FILING DATE: 2003-12-08
; PRIOR APPLICATION NUMBER: US 60/523,647
; PRIOR FILING DATE: 2003-11-20
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
; LENGTH: 164
; TYPE: PRT
; ORGANISM: Homo sapiens
```

## US-11-108-001-2

Query Match 95.7%; Score 779; DB 11; Length 164;  
Best Local Similarity 96.2%; Pred. No. 1.4e-75;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
DB 8 VRSSRTSDKPVAVHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 67  
QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120  
DB 68 QVLFKGGCPSHTVLLTHTISRIASVYQTKVNLLSAIKSPCORETPEGAEAKPWYEPIYL 127  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 128 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 164

## RESULT 12

US-10-490-953-35  
; Sequence 35, Application US/10490953  
; Publication No. US20060088908A1  
; GENERAL INFORMATION:  
; APPLICANT: SKERRA, ARNE  
; APPLICANT: SCHLEHUBER, STEFFEN  
; TITLE OF INVENTION: MOTIFS OF HUMAN NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN AND  
; FILE OF INVENTION: RELATED PROTEINS  
; FILE REFERENCE: 029029-0104  
; CURRENT APPLICATION NUMBER: US/10/490,953  
; CURRENT FILING DATE: 2004-03-29  
; PRIOR APPLICATION NUMBER: PCT/EP02/10490  
; PRIOR FILING DATE: 2002-09-18  
; PRIOR APPLICATION NUMBER: PCT/EP02/04223  
; PRIOR FILING DATE: 2002-04-16  
; PRIOR APPLICATION NUMBER: PCT/EP01/11213  
; PRIOR FILING DATE: 2001-09-27  
; NUMBER OF SEQ ID NOS: 39  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 35  
; LENGTH: 170  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: amino acid sequence  
; FEATURE:  
; NAME/KEY: CHAIN  
; LOCATION: (1)..(170)  
; OTHER INFORMATION: fusion protein of tumor necrosis factor alpha and  
; OTHER INFORMATION: affinity tag  
; FEATURE:  
; NAME/KEY: MISC\_FEATURE  
; LOCATION: (1)..(13)  
; OTHER INFORMATION: Affinity tag Arg-Gly-Ser-His(6)-Gly(3)  
; FEATURE:  
; NAME/KEY: MISC\_FEATURE  
; LOCATION: (14)..(170)  
; OTHER INFORMATION: mature tumor necrosis factor alpha  
US-10-490-953-35

Query Match 95.7%; Score 779; DB 8; Length 170;  
Best Local Similarity 96.2%; Pred. No. 1.5e-75;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
DB 14 VRSSRTSDKPVAVHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 73  
QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120  
DB 74 QVLFKGGCPSHTVLLTHTISRIASVYQTKVNLLSAIKSPCORETPEGAEAKPWYEPIYL 133

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 134 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 170

## RESULT 13

US-11-082-544-8  
; Sequence 8, Application US/11082544  
; Publication No. US20050249706A1  
; GENERAL INFORMATION:  
; APPLICANT: Bermudes, G.  
; APPLICANT: King, I.  
; APPLICANT: Clairmont, C.  
; APPLICANT: Lin, S.  
; APPLICANT: Belcourt, M.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR  
; TITLE OF INVENTION: TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES  
; FILE REFERENCE: 8002-059  
; CURRENT APPLICATION NUMBER: US/11/082,544  
; CURRENT FILING DATE: 2005-03-17  
; PRIOR APPLICATION NUMBER: US/09/645,415  
; PRIOR FILING DATE: 2000-08-24  
; PRIOR APPLICATION NUMBER: 60/157,581  
; PRIOR FILING DATE: 1999-10-04  
; PRIOR APPLICATION NUMBER: 60/157,637  
; PRIOR FILING DATE: 1999-10-04  
; NUMBER OF SEQ ID NOS: 61  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 8  
; LENGTH: 180  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Fusion construct  
US-11-082-544-8

Query Match 95.7%; Score 779; DB 11; Length 180;  
Best Local Similarity 96.2%; Pred. No. 1.6e-75;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
DB 24 VRSSRTSDKPVAVHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 83  
QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120  
DB 84 QVLFKGGCPSHTVLLTHTISRIASVYQTKVNLLSAIKSPCORETPEGAEAKPWYEPIYL 143  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 144 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 180

## RESULT 14

US-10-523-328-1  
; Sequence 1, Application US/10523328  
; Publication No. US20060078944A1  
; GENERAL INFORMATION:  
; APPLICANT: Kuai, Jun  
; APPLICANT: Lin, Lih-Ling  
; APPLICANT: Wooteers, Joseph L.  
; APPLICANT: Nickbarg, Elliot  
; TITLE OF INVENTION: METHODS AND REAGENTS RELATING TO INFLAMMATION AND APOPTOSIS  
; FILE REFERENCE: WYTH-FOI-001  
; CURRENT APPLICATION NUMBER: US/10/523,328  
; CURRENT FILING DATE: 2005-02-01  
; PRIOR APPLICATION NUMBER: 60/400,410  
; PRIOR FILING DATE: 2002-08-01  
; NUMBER OF SEQ ID NOS: 20  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 1  
; LENGTH: 233  
; TYPE: PRT

Tue May 9 11:18:22 2006

```
; ORGANISM: Homo sapiens
US-10-523-328-1

Query Match      95.7%; Score 779; DB 9; Length 233;
Best Local Similarity 96.2%; Pred. No. 2.2e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
    |||||
Db 77 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 136
    |||||

Qy 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPYIL 120
    |||||
Db 137 QVLFKGQGCPSHTVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPYIL 196
    |||||

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGGVYFGIIAL 157
    |||||
Db 197 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 233
    |||||

RESULT 15
US-11-246-387-8
; Sequence 8, Application US/11246387
; Publication No. US20060078994A1
; GENERAL INFORMATION:
; APPLICANT: Argos Therapeutics, Inc.
; APPLICANT: Kirin Beer Kabushiki Kaisha
; APPLICANT: Healey, Don
; APPLICANT: Tcherepanova, Irina
; APPLICANT: Adams, Melissa
; APPLICANT: Hinohara, Atsushi
; TITLE OF INVENTION: MATURE DENDRITIC CELL COMPOSITIONS AND METHODS FOR CULTURING SAME
; FILE REFERENCE: MER030
; CURRENT APPLICATION NUMBER: US/11/246,387
; CURRENT FILING DATE: 2005-10-07
; PRIOR APPLICATION NUMBER: US 60/522,512
; PRIOR FILING DATE: 2004-10-07
; NUMBER OF SEQ ID NOS: 26
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
; LENGTH: 233
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-246-387-8

Query Match      95.7%; Score 779; DB 11; Length 233;
Best Local Similarity 96.2%; Pred. No. 2.2e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
    |||||
Db 77 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 136
    |||||

Qy 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPYIL 120
    |||||
Db 137 QVLFKGQGCPSHTVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPYIL 196
    |||||

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGGVYFGIIAL 157
    |||||
Db 197 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 233
    |||||

Search completed: May 5, 2006, 11:28:33
Job time : 10.75 secs
```



**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:07 ; Search time 74.25 seconds  
(without alignments)  
929.057 Million cell updates/sec

Title: US-10-668-178-13

Perfect score: 814

Sequence: 1 VRSSRTSPDPVHVHVP.....RPDYLDFAESGVYFIIAL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A\_Geneseq\_21.\*

- 1: Geneseq1980s.\*
- 2: Geneseq1990s.\*
- 3: Geneseq2000s.\*
- 4: Geneseq2001s.\*
- 5: Geneseq2002s.\*
- 6: Geneseq2003as.\*
- 7: Geneseq2003bs.\*
- 8: Geneseq2004s.\*
- 9: Geneseq2005s.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	814	100.0	157	8	ADH10160 Human tum
2	807	99.1	157	9	AEB45433 TNF-R1 sp
3	806	99.0	157	9	AEB45432 TNF-R1 sp
4	805	98.9	157	9	AEB45434 TNF-R1 sp
5	803	98.6	157	9	AEB45430 TNF-R1 sp
6	800	98.3	157	9	AEB45453 TNF-R2 sp
7	799	98.2	157	9	AEB45431 TNF-R1 sp
8	795	97.7	157	9	AEB45454 TNF-R2 sp
9	793	97.4	157	9	AEB45469 TNF-R2 sp
10	792	97.3	157	9	AEB45438 TNF-R1 sp
11	792	97.3	157	9	AEB45436 TNF-R1 sp
12	792	97.3	157	9	AEB45461 TNF-R2 sp
13	791	97.2	157	9	AEB45460 TNF-R2 sp
14	791	97.2	157	9	AEB45464 TNF-R2 sp
15	790	97.1	157	9	AEB45472 TNF-R2 sp
16	790	97.1	157	9	AEB45471 TNF-R2 sp
17	790	97.1	157	9	AEB45455 TNF-R2 sp
18	790	97.1	157	9	AEB45456 TNF-R2 sp
19	790	97.1	157	9	AEB45474 TNF-R2 sp
20	790	97.1	157	9	AEB45457 TNF-R2 sp
21	790	97.1	157	9	AEB45475 TNF-R2 sp
22	789	96.9	157	9	AEB45458 TNF-R2 sp
23	789	96.9	157	9	AEB45473 TNF-R2 sp
24	789	96.9	157	9	AEB45467 TNF-R2 sp

25	789	96.9	157	9	AEB45468	Aeb45468 TNF-R2 sp
26	788	96.8	157	9	AEB45437	Aeb45437 TNF-R1 sp
27	788	96.8	157	9	AEB45462	Aeb45462 TNF-R2 sp
28	788	96.8	157	9	AEB45470	Aeb45470 TNF-R2 sp
29	787	96.7	157	9	AEB45456	Aeb45456 TNF-R2 sp
30	787	96.7	157	9	AEB45459	Aeb45459 TNF-R2 sp
31	787	96.7	157	9	AEB45465	Aeb45465 TNF-R2 sp
32	787	96.7	157	9	AEB45463	Aeb45463 TNF-R2 sp
33	785	96.4	157	9	AEB45429	Aeb45429 TNF-R1 sp
34	784	96.3	157	9	AEB45428	Aeb45428 TNF-R1 sp
35	784	96.3	157	9	AEB45425	Aeb45425 TNF-R1 sp
36	783	96.2	157	9	AEB45421	Aeb45421 Human TNF
37	782	96.1	157	9	AEB45427	Aeb45427 TNF-R1 sp
38	782	96.1	157	9	AEB45423	Aeb45423 Human TNF
39	782	96.1	157	9	AEB45435	Aeb45435 TNF-R1 sp
40	780	95.8	157	2	AAP62465	Aap62465 Tumour ne
41	779	95.7	157	1	AAP60524	Aap60524 Sequence
42	779	95.7	157	1	AAP70095	Aap70095 Tumour ne
43	779	95.7	157	1	AAP70144	Aap70144 Amino aci
44	779	95.7	157	2	AAR14270	Aar14270 Human TNF
45	779	95.7	157	2	AAR14112	Aar14112 Neutrophil

#### ALIGNMENTS

RESULT 1  
ADH10160  
ID ADH10160 standard; protein; 157 AA.  
XX  
AC ADH10160;  
XX  
DT 11-MAR-2004 (first entry)  
XX  
DE Human tumour necrosis factor variant protein.  
XX  
KW TNF; tumour necrosis factor; polyethylene glycol; cytostatic; cancer;  
KW human; variant.  
XX  
OS Homo sapiens.  
XX  
PN EP1354893-A2.  
XX  
PD 22-OCT-2003.  
XX  
PF 30-JAN-2003; 2003EP-00250587.  
XX  
PR 25-MAR-2002; 2002JP-00083509.  
PR 26-JUN-2002; 2002JP-00185387.  
XX  
XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.  
XX  
PI Mayumi T, Tsutsumi Y, Nakagawa S, Ikegami H;  
XX  
XX WPI: 2004-063952/07.  
DR N-PSDB; ADH10169.  
XX  
XX A physiologically active complex which comprises a protein part with  
XX tumor necrosis factor activity and a high molecular part has higher  
XX stability and retention in living bodies and is useful to treat disease,  
XX particularly cancer.  
XX  
XX Example 1; SEQ ID NO 3; 18pp; English.  
XX  
XX The present sequence represents a physiologically active complex which  
XX comprises a proteinaceous part with tumour necrosis factor (TNF) activity  
XX and a high molecular part bound artificially to the N-terminus of the  
XX proteinaceous part. The proteinaceous part comprises the sequence  
XX selected from ADH10159 and the molecular part has a molecular weight of  
XX 500-5000 Da and is a homopolymer of polyethylene glycol or a copolymer of

CC ethylene glycol and its derivatives. The invention is used to treat  
 CC susceptible disease, particularly cancer. The complex has a higher  
 CC stability and longer retention time in living bodies than intact tumor  
 CC necrosis factor. The present sequence represents a human TNF variant  
 CC protein.  
 XX  
 SQ Sequence 157 AA;

Query Match 100.0%; Score 814; DB 8; Length 157;  
 Best Local Similarity 100.0%; Pred. No. 9.6e-76;  
 Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 DB 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 QY 61 QVLFSGQCGPSTHVLTHLTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
 DB 61 QVLFSGQCGPSTHVLTHLTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
 DB 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 2  
 AEB45433  
 ID AEB45433 standard; protein; 157 AA.  
 AC AEB45433;  
 XX  
 XX 22-SEP-2005 (first entry)  
 XX  
 DE TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:17.  
 XX  
 KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmomium infection; meningitis; hepatitis; Alzheimer's disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mutin.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 XX WO2005066206-A1.  
 XX  
 XX 21-JUL-2005.  
 XX  
 XX 05-JAN-2005; 2005WO-JP0000032.  
 XX  
 XX 06-JAN-2004; 2004JP-00001427.  
 XX  
 XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.  
 XX  
 XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
 XX  
 XX WPI; 2005-506850/51.  
 DR N-PSDB; AEB45447.  
 XX  
 XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.  
 XX  
 PS Claim 4; SEQ ID NO 17; 34pp; Japanese.  
 PS  
 XX

CC The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.  
 XX

SQ Sequence 157 AA;

Query Match 99.1%; Score 807; DB 9; Length 157;  
 Best Local Similarity 98.7%; Pred. No. 5.1e-75;  
 Matches 155; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 DB 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 QY 61 QVLFSGQCGPSTHVLTHLTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
 DB 61 QVLFSGQCGPSTHVLTHLTISRIAVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
 DB 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 3  
 AEB45432  
 ID AEB45432 standard; protein; 157 AA.  
 AC AEB45432;  
 XX  
 XX 22-SEP-2005 (first entry)  
 XX  
 XX TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:16.  
 XX  
 KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmomium infection; meningitis; hepatitis; Alzheimer's disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mutin.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 XX WO2005066206-A1.  
 XX  
 XX 21-JUL-2005.  
 XX  
 XX 05-JAN-2005; 2005WO-JP0000032.  
 XX  
 XX 06-JAN-2004; 2004JP-00001427.  
 XX

PA (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.  
XX  
XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
XX  
XX WPI; 2005-506850/51.  
XX N-PSDB; AEB45446.  
XX  
XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
PT and/or preventing diseases such as inflammation, and other diseases  
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
PT rheumatoid arthritis, allergy.  
XX  
XX Claim 4; SEQ ID NO 16; 34pp; Japanese.  
XX  
XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
CC a TNF mutant protein comprising an amino acid sequence derived from the  
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
CC N-terminus, and amino acid residues at positions 84-89 by other amino  
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
CC protein. The TNF mutant proteins are useful for treating and/or  
CC preventing diseases such as inflammation, and other diseases caused by  
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
CC transplant rejection, stroke, ischemia, testenosis, AIDS, severe acute  
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
CC The sequence data for this patent did not form part of the printed  
CC specification, but was obtained in electronic format directly from WIPO  
CC at ftp.wipo.int/pub/published\_pct\_sequences.  
XX  
SQ Sequence 157 AA;  
Query Match 99.0%; Score 806; DB 9; Length 157;  
Best Local Similarity 98.7%; Pred. No. 6.4e-75;  
Matches 155; Conservative 1; Mismatches 1; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDQLVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDQLVVPSEGLYLIYS 60  
QY 61 QVLFSGQGCPSHTVLLTHTRISIAVSQYTPVNLSSAIRSCQRETPGAEANPWYPIYL 120  
DB 61 QVLFSGQGCPSHTVLLTHTRISIAVSQYTPVNLSSAIRSCQRETPGAEANPWYPIYL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFASGQVYFGIAL 157  
DB 121 GGVFQLEPGDRLSAEINRPDYLDFRETGQVYFGIAL 157

RESULT 4  
AEB45434  
ID AEB45434 standard; protein; 157 AA.  
XX  
XX AEB45434;  
XX  
XX 22-SEP-2005 (first entry)  
XX  
XX TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:18.  
XX  
XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;

KW antinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
KW mutuin.  
XX  
XX Homo sapiens.  
OS Synthetic.  
XX  
XX WO2005066206-A1.  
XX  
XX 21-JUL-2005.  
XX  
XX 05-JAN-2005; 2005WO-JP000032.  
XX  
XX 06-JAN-2004; 2004JP-00001427.  
XX  
XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.  
XX  
XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
XX  
XX WPI; 2005-506850/51.  
XX N-PSDB; AEB45448.  
XX  
XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
PT and/or preventing diseases such as inflammation, and other diseases  
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
PT rheumatoid arthritis, allergy.  
XX  
XX Claim 4; SEQ ID NO 18; 34pp; Japanese.  
XX  
XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
CC a TNF mutant protein comprising an amino acid sequence derived from the  
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
CC N-terminus, and amino acid residues at positions 84-89 by other amino  
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
CC protein. The TNF mutant proteins are useful for treating and/or  
CC preventing diseases such as inflammation, and other diseases caused by  
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
CC transplant rejection, stroke, ischemia, testenosis, AIDS, severe acute  
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
CC The sequence data for this patent did not form part of the printed  
CC specification, but was obtained in electronic format directly from WIPO  
CC at ftp.wipo.int/pub/published\_pct\_sequences.  
XX  
SQ Sequence 157 AA;  
Query Match 98.9%; Score 805; DB 9; Length 157;  
Best Local Similarity 98.7%; Pred. No. 8.2e-75;  
Matches 155; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDQLVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDQLVVPSEGLYLIYS 60  
QY 61 QVLFSGQGCPSHTVLLTHTRISIAVSQYTPVNLSSAIRSCQRETPGAEANPWYPIYL 120  
DB 61 QVLFSGQGCPSHTVLLTHTRISIAVSQYTPVNLSSAIRSCQRETPGAEANPWYPIYL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFASGQVYFGIAL 157  
DB 121 GGVFQLEPGDRLSAEINRPDYLDFRETGQVYFGIAL 157

Db 121 GGVFQLEPGDRLSAEINRPDYLDFAHQGVYFGIIAL 157

RESULT 5  
ID AEB45430  
XX AEB45430 standard; protein; 157 AA.  
XX AC AEB45430;  
XX DT 22-SEP-2005 (first entry)  
XX TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:14.  
XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
KW plasmoid infection; meningitis; hepatitis; Alzheimer's disease;  
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
KW mutein.  
XX Homo sapiens.  
OS Synthetic.  
XX AC AEB45430;  
XX WO2005066206-A1.  
XX 21-JUL-2005.  
XX 05-JAN-2005; 2005WO-JP000032.  
XX 06-JAN-2004; 2004JP-00001427.  
XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.  
XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
WPI; 2005-506850/51.  
DR N-PSDB; AEB45444.  
XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
PT and/or preventing diseases such as inflammation, and other diseases  
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
PT rheumatoid arthritis, allergy.  
XX Claim 4; SEQ ID NO 14; 34pp; Japanese.  
XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
CC a TNF mutant protein comprising an amino acid sequence derived from the  
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
CC N-terminus, and amino acid residues at positions 84-89 by other amino  
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
CC protein. The TNF mutant proteins are useful for treating and/or  
CC preventing diseases such as inflammation, and other diseases caused by  
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
CC The sequence data for this patent did not form part of the printed  
CC specification, but was obtained in electronic format directly from WIPO  
CC at ftp.wipo.int/pub/published\_pct\_sequences.

XX SQ Sequence 157 AA;  
Query Match 98.6%; Score 803; DB 9; Length 157;  
Best Local Similarity 98.1%; Pred. No. 1.3e-74;  
Matches 154; Conservative 2; Mismatches 1; Indels 0; Gaps 0;  
QY 1 VRSSRTPTSDMPVAHVANPQAEQOLWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60  
DB 1 VRSSRTPTSDMPVAHVANPQAEQOLWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60  
QY 61 QVLFSGGCGPSTHVLTLTHTISRIASVYQTPVNLISAIRSPCORETPEGAENPWEPIYL 120  
DB 61 QVLFSGGCGPSTHVLTLTHTISRIASVYQTPVNLISAIRSPCORETPEGAENPWEPIYL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAHQGVYFGIIAL 157  
DB 121 GGVFQLEPGDRLSAEINRPDYLDFAHQGVYFGIIAL 157  
RESULT 6  
ID AEB45453  
XX AEB45453 standard; protein; 157 AA.  
XX AC AEB45453;  
XX DT 22-SEP-2005 (first entry)  
XX TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:37.  
XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
KW plasmoid infection; meningitis; hepatitis; Alzheimer's disease;  
KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
KW mutein.  
XX Homo sapiens.  
OS Synthetic.  
XX WO2005066206-A1.  
XX 21-JUL-2005.  
XX 05-JAN-2005; 2005WO-JP000032.  
XX 06-JAN-2004; 2004JP-00001427.  
XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.  
XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
WPI; 2005-506850/51.  
DR N-PSDB; AEB45476.  
XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
PT and/or preventing diseases such as inflammation, and other diseases  
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
PT rheumatoid arthritis, allergy.  
XX Claim 5; SEQ ID NO 37; 34pp; Japanese.  
XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
CC a TNF mutant protein comprising an amino acid sequence derived from the  
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
CC N-terminus, and amino acid residues at positions 84-89 by other amino  
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
CC protein. The TNF mutant proteins are useful for treating and/or  
CC preventing diseases such as inflammation, and other diseases caused by  
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
CC The sequence data for this patent did not form part of the printed  
CC specification, but was obtained in electronic format directly from WIPO  
CC at ftp.wipo.int/pub/published\_pct\_sequences.

one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the N-terminus, and amino acid residues at positions 84-89 by other amino acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF mutant protein; and (2) a TNF formulation comprising a TNF mutant protein. The TNF mutant proteins are useful for treating and/or preventing diseases such as inflammation, and other diseases caused by overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma), Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia, transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease, etc. The TNF mutant proteins are highly stable in vivo. This sequence represents a human TNF-alpha mutant protein specific for TNF-R2. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published\_pct\_sequences.

XX Sequence 157 AA;

Query Match 98.3%; Score 800; DB 9; Length 157;  
Best Local Similarity 98.7%; Pred. No. 2.7e-74; Mismatches 2; Indels 0; Gaps 0;  
Matches 155; Conservative 0;

QY 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAEANPWYEPYIL 120  
DB 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAEANPWYEPYIL 120

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
DB 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157

RESULT 7  
AEB45431  
ID AEB45431 standard; protein; 157 AA.  
XX AEB45431;  
AC  
XX  
XX  
DT 22-SEP-2005 (first entry)  
XX  
DE TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:15.  
XX  
XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation; autoimmune disease; tumor; transplant rejection; cardiovascular disease; acquired immune deficiency syndrome; severe acute respiratory syndrome; plasmodium infection; meningitis; hepatitis; Alzheimer's disease; antiinflammatory; cytostatic; antineumatic; antiarthritic; antiallergic; antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive; vasotropic; cerebroprotective; dermatological; immunomodulator; antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic; mutain.

XX Homo sapiens.  
OS Synthetic.  
XX  
XX WO2005066206-A1.  
XX  
XX 21-JUL-2005.  
XX  
XX 05-JAN-2005; 2005WO-JP000032.  
XX  
XX 06-JAN-2004; 2004JP-00001427.  
XX  
XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.

PI Mayumi T, Teutsumi Y, Nakagawa S, Ohta T;  
XX WPI; 2005-506850/51.  
DR N-PSDB; AEB45445.  
XX  
PT Novel tumor necrosis factor TNF mutant protein, useful for treating and/or preventing diseases such as inflammation, and other diseases caused by overexpression of TNF, such as autoimmune diseases, tumor, rheumatoid arthritis, allergy.  
PT  
PT  
PS Claim 4; SEQ ID NO 15; 34pp; Japanese.  
XX  
XX The invention relates to tumor necrosis factor (TNF) mutant proteins, particularly tumor necrosis factor mutant proteins specific for TNF-R1 or TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses a TNF mutant protein comprising an amino acid sequence derived from the human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the N-terminus, and amino acid residues at positions 84-89 by other amino acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF mutant protein; and (2) a TNF formulation comprising a TNF mutant protein. The TNF mutant proteins are useful for treating and/or preventing diseases such as inflammation, and other diseases caused by overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma), Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia, transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease, etc. The TNF mutant proteins are highly stable in vivo. This sequence represents a human TNF-alpha mutant protein specific for TNF-R1. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published\_pct\_sequences.

XX Sequence 157 AA;

Query Match 98.2%; Score 799; DB 9; Length 157;  
Best Local Similarity 98.1%; Pred. No. 3.4e-74; Mismatches 154; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAEANPWYEPYIL 120  
DB 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCORETPEGAEANPWYEPYIL 120

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
DB 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157

RESULT 8  
AEB45454  
ID AEB45454 standard; protein; 157 AA.  
XX AEB45454;  
AC  
XX  
XX 22-SEP-2005 (first entry)  
XX  
XX TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:38.  
XX  
XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation; autoimmune disease; tumor; transplant rejection; cardiovascular disease; acquired immune deficiency syndrome; severe acute respiratory syndrome; plasmodium infection; meningitis; hepatitis; Alzheimer's disease; antiinflammatory; cytostatic; antineumatic; antiarthritic; antiallergic; antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive; vasotropic; cerebroprotective; dermatological; immunomodulator; antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic; mutain.

XX Homo sapiens.  
OS Synthetic.  
XX WO2005066206-A1.  
PN 21-JUL-2005.  
PD  
XX 05-JAN-2005; 2005WO-JP0000032.  
PF  
XX 06-JAN-2004; 2004JP-00001427.  
PR  
XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.  
XX  
PI Mayumi T, Teutsuimi Y, Nakagawa S, Ohta T;  
XX  
XX WPI: 2005-506850/51.  
DR N-PSDB; AEB45477.  
XX  
XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
PT and/or preventing diseases such as inflammation, and other diseases  
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
PT rheumatoid arthritis, allergy.  
XX  
XX Claim 5; SEQ ID NO 38; 34pp; Japanese.  
PS  
XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
CC a TNF mutant protein comprising an amino acid sequence derived from the  
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
CC N-terminus, and amino acid residues at positions 84-89 by other amino  
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
CC protein. The TNF mutant proteins are useful for treating and/or  
CC preventing diseases such as inflammation, and other diseases caused by  
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
CC The sequence data for this patent did not form part of the printed  
CC specification, but was obtained in electronic format directly from WIPO  
CC at ftp.wipo.int/pub/published\_pct\_sequences.  
XX  
XX Sequence 157 AA;  
SQ

Query Match 97.7%; Score 795; DB 9; Length 157;  
Best Local Similarity 98.1%; Pred. No. 8.8e-74;  
Matches 154; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVPSSEGLYLIYS 60  
Db 1 VRSSRTPSDMPVAHVANPQAEGLQWNTGYANALLANGVELRDNLQVPSSEGLYLIYS 60  
QY 61 QVLFSGQCGPSTHLLVTHITISIAVSYQTPVNLNLSAIRSPCQRETPGEAANPWPEIYL 120  
Db 61 QVLFSGQCGPSTHLLVTHITISIAVSYQTPVNLNLSAIRSPCQRETPGEAANPWPEIYL 120  
QY 121 GGVFQLEPGDRLSAENRPDYLDFAESGGVYFGIALL 157  
Db 121 GGVFQLEPGDRLSAENRPDYLDFAESGGVYFGIALL 157

RESULT 9  
AEB45469

ID AEB45469 standard; protein; 157 AA.  
XX  
AC AEB45469;  
XX  
DT 22-SEP-2005 (first entry)  
XX  
XX TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:53.  
DE  
XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
KW plasmoid infection; meningitis; hepatitis; Alzheimer's disease;  
KW antiinflammatory; cytostatic; antirheumatic; antithrombotic; antiallergic;  
KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
KW mutein.  
XX  
XX Homo sapiens.  
OS Synthetic.  
XX WO2005066206-A1.  
PN 21-JUL-2005.  
PD  
XX 05-JAN-2005; 2005WO-JP0000032.  
PF  
XX 06-JAN-2004; 2004JP-00001427.  
PR  
XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
PA (MAYU/) MAYUMI T.  
PA (TSUT/) TSUTSUMI Y.  
PA (NAKA/) NAKAGAWA S.  
XX  
PI Mayumi T, Teutsuimi Y, Nakagawa S, Ohta T;  
XX  
XX WPI: 2005-506850/51.  
DR N-PSDB; AEB45492.  
XX  
XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
PT and/or preventing diseases such as inflammation, and other diseases  
PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
PT rheumatoid arthritis, allergy.  
XX  
XX Claim 5; SEQ ID NO 53; 34pp; Japanese.  
PS  
XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
CC a TNF mutant protein comprising an amino acid sequence derived from the  
CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
CC N-terminus, and amino acid residues at positions 84-89 by other amino  
CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
CC protein. The TNF mutant proteins are useful for treating and/or  
CC preventing diseases such as inflammation, and other diseases caused by  
CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
CC The sequence data for this patent did not form part of the printed  
CC specification, but was obtained in electronic format directly from WIPO  
CC at ftp.wipo.int/pub/published\_pct\_sequences.  
XX  
XX Sequence 157 AA;  
SQ

Query Match 97.4%; Score 793; DB 9; Length 157;  
Best Local Similarity 97.5%; Pred. No. 1.4e-73;



Matches 153; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 |||||  
 DB 1 VRSSRTPSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 |||||

QY 61 QVLFSGQGCPSPTHVLLTHTTISRIVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPYIL 120  
 |||||  
 DB 61 QVLFSGQGCPSPTHVLLTHTTISRIVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPYIL 120  
 |||||

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
 |||||  
 DB 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
 |||||

RESULT 10  
 AEB45436  
 ID AEB45436 standard; protein; 157 AA.

AC AEB45436;  
 XX

DT 22-SEP-2005 (first entry)

XX TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:22.

DE tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mutain.

XX Homo sapiens.  
 OS Synthetic.  
 XX

PN WO2005066206-A1.  
 XX

XX 21-JUL-2005.

XX 05-JAN-2005; 2005WO-JP000032.  
 XX

PF 06-JAN-2004; 2004JP-00001427.

XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.

XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
 PI WPI; 2005-506850/51.  
 XX N-PSDB; AEB45452.

XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.

XX Claim 4; SEQ ID NO 22; 34pp; Japanese.

XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or

CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.

XX Sequence 157 AA;

Query Match 97.3%; Score 792; DB 9; Length 157;  
 Best Local Similarity 97.5%; Pred. No. 1.8e-73;  
 Matches 153; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 |||||  
 DB 1 VRSSRTPSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 |||||

QY 61 QVLFSGQGCPSPTHVLLTHTTISRIVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPYIL 120  
 |||||  
 DB 61 QVLFSGQGCPSPTHVLLTHTTISRIGGYQRPVNLLSAIRSPCQRETPEGAEANPWYEPYIL 120  
 |||||

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
 |||||  
 DB 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
 |||||

RESULT 11

AEB45436

ID AEB45436 standard; protein; 157 AA.

XX AEB45436;

XX 22-SEP-2005 (first entry)

XX TNF-R1 specific human TNF-alpha mutant protein, SEQ ID No:20.

XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mutain.

XX Homo sapiens.

OS Synthetic.

XX WO2005066206-A1.

XX 21-JUL-2005.

XX 05-JAN-2005; 2005WO-JP000032.

XX 06-JAN-2004; 2004JP-00001427.

XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.

XX (MAYU/) MAYUMI T.

XX (TSUT/) TSUTSUMI Y.

XX (NAKA/) NAKAGAWA S.

XX Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;

XX WPI; 2005-506850/51.

XX N-PSDB; AEB45450.

XX

PT Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.

XX  
 PS Claim 4; SEQ ID NO 20; 34pp; Japanese.

XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R1. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.

XX Sequence 157 AA;

Query Match 97.3%; Score 792; DB 9; Length 157;  
 Best Local Similarity 97.5%; Pred. No. 1.8e-73;  
 Matches 153; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVPSSEGLYLIYS 60  
 DB |||||  
 QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVPSSEGLYLIYS 60  
 DB |||||  
 QY 61 QVLFSGQGCPSTHLLTHTISRIASVYQTPVNLISAIRSPCQRETPGEAANPWYEPIYL 120  
 DB |||||  
 QY 61 QVLFSGQGCPSTHLLTHTISRIASVYQTPVNLISAIRSPCQRETPGEAANPWYEPIYL 120  
 DB |||||  
 QY 121 GGVFQLEPGDRLSABEINRPDYLDFAESGQVYFGIALL 157  
 DB |||||  
 QY 121 GGVFQLEPGDRLSABEINRPDYLDFAESGQVYFGIALL 157  
 DB |||||

RESULT 12  
 AEB45461  
 ID AEB45461 standard; protein; 157 AA.

XX AEB45461;

XX 22-SEP-2005 (first entry)

XX TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:45.

XX tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmodium infection; meningitis; hepatitis; Alzheimer's disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mutcin.

OS Homo sapiens.  
 OS Synthetic.

XX WO2005066206-A1.

XX

PD 21-JUL-2005.

XX 05-JAN-2005; 2005WO-JP0000032.

XX 06-JAN-2004; 2004JP-00001427.

XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.

PI Mayumi T, Tautsumi Y, Nakagawa S, Ohta T;

XX WPI; 2005-506850/51.  
 DR N-PSDB; ABB45484.

XX Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.

PS Claim 5; SEQ ID NO 45; 34pp; Japanese.

CC The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.

XX Sequence 157 AA;

Query Match 97.3%; Score 792; DB 9; Length 157;  
 Best Local Similarity 96.8%; Pred. No. 1.8e-73;  
 Matches 152; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVPSSEGLYLIYS 60  
 DB |||||

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVPSSEGLYLIYS 60  
 DB |||||

QY 61 QVLFSGQGCPSTHLLTHTISRIASVYQTPVNLISAIRSPCQRETPGEAANPWYEPIYL 120  
 DB |||||

QY 61 QVLFSGQGCPSTHLLTHTISRIASVYQTPVNLISAIRSPCQRETPGEAANPWYEPIYL 120  
 DB |||||

QY 121 GGVFQLEPGDRLSABEINRPDYLDFAESGQVYFGIALL 157  
 DB |||||

QY 121 GGVFQLEPGDRLSABEINRPDYLDFAESGQVYFGIALL 157  
 DB |||||

RESULT 13

XX AEB45460  
 ID AEB45460 standard; protein; 157 AA.

XX AEB45460;

XX 22-SEP-2005 (first entry)

XX DE TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:44.  
 XX KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mutein.  
 XX OS Homo sapiens.  
 XX OS Synthetic.  
 XX PN WO2005066206-A1.  
 XX PD 21-JUL-2005.  
 XX XX 05-JAN-2005; 2005WO-JP000032.  
 XX PF 06-JAN-2004; 2004JP-00001427.  
 XX XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.  
 XX PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
 XX WPI; 2005-506850/51.  
 DR N-PSDB; AEB45483.  
 XX PT Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.  
 XX Claim 5; SEQ ID NO 44; 34pp; Japanese.  
 XX CC The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.  
 XX SQ Sequence 157 AA;  
 SQ Query Match 97.2%; Score 791; DB 9; Length 157;  
 Best Local Similarity 96.8%; Pred. No. 2.3e-73;  
 Matches 152; Conservative 2; Mismatches 3; Indels 0; Gaps 0;  
 Qy 1 VRSSRTPSDMPVAVVAVNPQAEQQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60  
 Db 1 VRSSRTPSDMPVAVVAVNPQAEQQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60

QY 61 QVLFSGQGCPTSTHVLTLTHTISRIASVYQTPVNLLSAIRSPCQRETPEGAENPWYBPIYL 120  
 Db 61 QVLFSGQGCPTSTHVLTLTHTISRIASVYQTPVNLLSAIRSPCQRETPEGAENPWYBPIYL 120  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
 Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
 RESULT 14  
 AEB45464  
 ID AEB45464 standard; protein; 157 AA.  
 XX AC AEB45464;  
 XX DT 22-SEP-2005 (first entry)  
 XX XX TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:48.  
 DE tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmodium infection; meningitis; hepatitis; Alzheimers disease;  
 KW antiinflammatory; cytostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW mutein.  
 XX OS Homo sapiens.  
 XX OS Synthetic.  
 XX PN WO2005066206-A1.  
 XX PD 21-JUL-2005.  
 XX PF 05-JAN-2005; 2005WO-JP000032.  
 XX XX 06-JAN-2004; 2004JP-00001427.  
 XX XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.  
 XX PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
 XX WPI; 2005-506850/51.  
 DR N-PSDB; AEB45487.  
 XX PT Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.  
 XX Claim 5; SEQ ID NO 48; 34pp; Japanese.  
 XX CC The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute

CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.

XX SQ Sequence 157 AA;

Query Match 97.2%; Score 791; DB 9; Length 157;  
 Best Local Similarity 96.8%; Pred. No. 2.3e-73;  
 Matches 152; Conservative 1; Mismatches 4; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 DB 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
 DB 61 QVLFSGQGCPSHTVLLTHTTISRITTAISGPNVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
 DB 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157

RESULT 15  
 AEB45472  
 ID AEB45472 standard; protein; 157 AA.  
 AC AEB45472;  
 XX  
 AC  
 DT 22-SEP-2005 (first entry)  
 XX  
 DE TNF-R2 specific human TNF-alpha mutant protein, SEQ ID No:56.  
 XX  
 KW tumor necrosis factor-alpha; TNF-alpha; TNF inhibitor; inflammation;  
 KW autoimmune disease; tumor; transplant rejection; cardiovascular disease;  
 KW acquired immune deficiency syndrome; severe acute respiratory syndrome;  
 KW plasmodium infection; meningitis; hepatitis; Alzheimer's disease;  
 KW antiinflammatory; cycostatic; antirheumatic; antiarthritic; antiallergic;  
 KW antipsoriatic; anti-HIV; antiarteriosclerotic; immunosuppressive;  
 KW vasotropic; cerebroprotective; dermatological; immunomodulator;  
 KW antimalarial; antibacterial; hepatotropic; neuroprotective; nootropic;  
 KW muteln.  
 XX  
 OS Homo sapiens.  
 OS Synthetic.  
 XX  
 FN WO2005066206-A1.  
 PN  
 PD 21-JUL-2005.  
 XX  
 PF 05-JAN-2005; 2005WO-JP000032.  
 XX  
 PR 06-JAN-2004; 2004JP-00001427.  
 XX  
 PA (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAXA/) NAKAGAWA S.  
 XX  
 PI Mayumi T, Tsutsumi Y, Nakagawa S, Ohta T;  
 XX  
 DR WPI: 2005-506850/51.  
 DR N-PSDB; AEB45495.  
 XX  
 PT Novel tumor necrosis factor TNF mutant protein, useful for treating  
 PT and/or preventing diseases such as inflammation, and other diseases  
 PT caused by overexpression of TNF, such as autoimmune diseases, tumor,  
 PT rheumatoid arthritis, allergy.

PS Claim 5; SEQ ID NO 56; 34pp; Japanese.  
 XX The invention relates to tumor necrosis factor (TNF) mutant proteins,  
 CC particularly tumor necrosis factor mutant proteins specific for TNF-R1 or  
 CC TNF-R2 (SEQ ID Nos 19-22 and 37-59 respectively). The invention discloses  
 CC a TNF mutant protein comprising an amino acid sequence derived from the  
 CC human TNF-alpha protein (given as SEQ ID No: 1) by the substitution of  
 CC one or more amino acid residues at 29, 31, 32, 145, 146 and 147 from the  
 CC N-terminus, and amino acid residues at positions 84-89 by other amino  
 CC acid residue(s). Also described are: (1) a TNF inhibitor comprising a TNF  
 CC mutant protein; and (2) a TNF formulation comprising a TNF mutant  
 CC protein. The TNF mutant proteins are useful for treating and/or  
 CC preventing diseases such as inflammation, and other diseases caused by  
 CC overexpression of TNF, such as autoimmune diseases, tumors (e.g. colon  
 CC cancer, rectal cancer, uterine cancer, brain tumor, leukemia, lymphoma),  
 CC Crohn's disease, rheumatoid arthritis, allergies, psoriasis, cachexia,  
 CC transplant rejection, stroke, ischemia, restenosis, AIDS, severe acute  
 CC respiratory syndrome (SARS), atherosclerosis, Behcet's disease, systemic  
 CC lupus erythematosus, malaria, meningitis, hepatitis, Alzheimer's disease,  
 CC etc. The TNF mutant proteins are highly stable in vivo. This sequence  
 CC represents a human TNF-alpha mutant protein specific for TNF-R2. Note:  
 CC The sequence data for this patent did not form part of the printed  
 CC specification, but was obtained in electronic format directly from WIPO  
 CC at ftp.wipo.int/pub/published\_pct\_sequences.

XX SQ Sequence 157 AA;

Query Match 97.1%; Score 790; DB 9; Length 157;  
 Best Local Similarity 96.8%; Pred. No. 2.9e-73;  
 Matches 152; Conservative 2; Mismatches 3; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 DB 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
 DB 61 QVLFSGQGCPSHTVLLTHTTISRISKYSHPVNLLSAIRSPCQRETPEGAANPWYEPIYL 120  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
 DB 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157

Search completed: May 5, 2006, 11:26:33  
 Job time : 75.25 secs

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:42 ; Search time 18 Seconds  
(without alignments)  
839.224 Million cell updates/sec

Title: US-10-668-178-13

Perfect score: 814

Sequence: 1 VRSSSRTPSDMPVAHVANP.....RPDYLDFAESGGVYFGIIAL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

PIR 80.\*  
1: pir1.\*  
2: pir2.\*  
3: pir3.\*  
4: pir4.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	779	95.7	233	1 QWHUN	tumor necrosis fac
2	772	94.8	233	1 S22052	tumor necrosis fac
3	712	87.5	233	2 S11688	tumor necrosis fac
4	697	85.6	234	1 JQ1344	tumor necrosis fac
5	677.5	83.2	232	1 S12606	tumor necrosis fac
6	634.5	77.9	235	1 QWMSN	tumor necrosis fac
7	633.5	77.8	234	1 A25451	tumor necrosis fac
8	631	77.5	185	2 S52715	tumor necrosis fac
9	631	77.5	233	1 S24642	tumor necrosis fac
10	629	77.3	234	1 JH0529	tumor necrosis fac
11	628.5	77.2	235	2 I54490	tumor necrosis fac
12	624.5	76.7	193	2 S06192	tumor necrosis fac
13	619.5	76.1	235	2 JU0029	tumor necrosis fac
14	538.5	31.8	197	1 JH0309	tumor necrosis fac
15	250.5	30.8	204	1 S24641	lymphotoxin - bovi
16	247.5	30.4	204	1 S17289	tumor necrosis fac
17	238	29.2	202	1 JN0869	tumor necrosis fac
18	236.5	29.1	202	1 B27303	tumor necrosis fac
19	213.5	26.2	205	1 QWHUX	lymphotoxin alpha
20	173	21.3	244	2 A46066	lymphotoxin beta - fas ligand - rat
21	166.5	20.5	278	2 A49266	Fas ligand - mouse
22	161.5	19.8	279	2 A53062	Fas ligand - human
23	149	18.3	281	2 I38707	lymphotoxin-beta - CD40 ligand - huma
24	143	17.6	306	2 I49139	CD40 ligand - huma
25	129	15.8	261	2 I53476	CD40 ligand - mouse
26	127	15.6	260	2 S21738	CD40 ligand - bovi
27	116	14.3	261	2 S53090	probable tail comp
28	80	9.8	1560	2 T09202	hypothetical prote
29	77.5	9.5	675	2 E75393	

#### RESULT 1

QWHUN

tumor necrosis factor alpha precursor [validated] - human

N;Alternate names: cachectin; TNFA

C;Species: Homo sapiens (man)

C;Date: 28-Aug-1985 #sequence revision 28-Aug-1985 #text change 09-Jul-2004

C;Accession: A93585; S36153; A93351; A44189; B61478; I53311; S62610; I54532; A01646; B2

R;Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica,

Nucleic Acids Res. 13, 6361-6373, 1985

A;Title: Human lymphotoxin and tumor necrosis factor genes: structure, homology and chr

A;Reference number: A93585; MUID:86016093; PMID:2995927

A;Accession: A93585

A;Molecule type: DNA

A;Residues: 1-233 <NED>

A;Cross-references: UNIPROT:P01375; UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:93

R;Iris, F.J.M.; Bougueler, L.; Prieur, S.; Caterina, D.; Primas, G.; Perrot, V.; Jurk

Nature Genet. 3, 137-145, 1993

A;Title: Dense Alu clustering and a potential new member of the NFkappaB family within

A;Reference number: S36152; MUID:93272029; PMID:8499947

A;Accession: S36153

A;Status: nucleic acid sequence not shown; translation not shown

A;Molecule type: DNA

A;Residues: 1-233 <IRI>

A;Cross-references: UNIPARC:UPI000000D745; EMBL:Z15026; NID:g37211; PIDN:CAA7845.1; PI

A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1992

R;Pennica, D.; Nedwin, G.E.; Hayflick, J.S.; Seeburg, P.H.; Derynck, R.; Palladino, M.A

Nature 312, 724-729, 1984

A;Title: Human tumour necrosis factor: precursor structure, expression and homology to

A;Reference number: A93351; MUID:85086244; PMID:6392892

A;Accession: A93351

A;Molecule type: mRNA

A;Residues: 1-233 <PEN>

A;Cross-references: UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g37209; PIDN:CAA26

A;Note: this protein was isolated from the monocyte-like cell line HL-60 from a promyel

R;Wang, A.M.; Creasey, A.A.; Ladner, M.B.; Lin, L.S.; Strickler, J.; Van Arsdel, J.N.;

Science 228, 149-154, 1985

A;Title: Molecular cloning of the complementary DNA for human tumor necrosis factor.

A;Reference number: A44189; MUID:85142190; PMID:3856324

A;Accession: A44189

A;Molecule type: mRNA

A;Residues: 1-62, 'S', 64-233 <WAN>

A;Cross-references: UNIPARC:UPI000002PB8A; GB:M10988; NID:g339737; PIDN:AAA61198.1; PID

R;Fukuda, S.; Ando, S.; Sanou, O.; Tani, M.; Masaki, N.; Nakamura, K.I.;

Lymphokine Res. 7, 175-185, 1988

A;Title: Simultaneous production of natural human tumor necrosis factor-alpha, -beta ar

A;Reference number: A61478; MUID:88301617; PMID:2841543

A;Accession: B61478

A;Molecule type: protein

A;Residues: 83-102;109-119;121-128, 'X', 130-131;142-144, 'X', 146, 'XXX', 150-152;159-174;18

A;Cross-references: UNIPARC:UPI00001735C7; UNIPARC:UPI00001735C8; UNIPARC:UPI00001735C9

R;Marmenout, A.; Franssen, L.; Tavernier, J.; Van Der Heyden, J.; Tizard, R.; Kawashima,

Eur. J. Biochem. 152, 515-522, 1985

A>Title: Molecular cloning and expression of human tumor necrosis factor and comparison  
A:Reference number: I53111; MUID:86030296; PMID:3932069  
A:Accession: I53111  
A>Status: translated from GB/EMBL/DBJ  
A:Molecule type: DNA  
A:Residues: 1-233 <MAR>  
A:Cross-references: UNIPARC:UPI000000D745; GB:M26331; NID:G339763; PIDN:AAA36758.1; PID:  
R:Rakakura-Yamamoto, R.; Yamamoto, S.; Fukuda, S.; Kurimoto, M.  
Eur. J. Biochem. 235, 431-437, 1996  
A>Title: O-Glycosylated species of natural human tumor-necrosis factor-alpha.  
A:Reference number: S62610; MUID:96202967; PMID:8631363  
A:Accession: S62610  
A:Molecule type: protein  
A:Residues: 77-99 <TAK>  
A:Cross-references: UNIPARC:UPI00001735CD  
R:D'Alfonso, S.; Richiardi, P.M.  
Immunogenetics 39, 150-154, 1994  
A>Title: A polymorphic variation in a putative regulation box of the TNFA promoter region  
A:Reference number: I54522; MUID:94102809; PMID:7903959  
A:Accession: I54522  
A>Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: DNA  
A:Residues: 1-8 <DAL>  
A:Cross-references: UNIPARC:UPI00001735CE; GB:S68530; NID:G544751  
R:Stevenson, F.T.; Bursten, S.L.; Lockaley, R.M.; Lovett, D.H.  
J. Exp. Med. 176, 1053-1062, 1992  
A>Title: Myristyl acylation of the tumor necrosis factor alpha precursor on specific lys  
A:Reference number: A59163; MUID:93018920; PMID:1402651  
A:Contents: annotation; identification of myristylated lysines  
R:Aggarwal, B.B.; Kohr, W.J.; Haas, P.E.; Moffat, B.; Spencer, S.A.; Henzel, W.J.; Bring  
J. Biol. Chem. 260, 2345-2354, 1985  
A>Title: Human tumor necrosis factor. Production, purification, and characterization.  
A:Reference number: A92511; MUID:85130974; PMID:3871770  
A:Contents: annotation; disulfide bond  
C:Comment: Secreted from mitogen-activated macrophages within 4-24 hours after induction  
out detriment to normal cells. It can also act synergistically with interferon gamma to  
C:Comment: TNF-alpha and -beta (lymphotoxin) are the products of different genes closely  
ut are produced by different cell types and have different induction kinetics.  
C:Genetics:  
A:Gene: GDB:TNF; TNFA  
A:Cross-references: GDB:120441; OMIM:191160  
A:Map position: 6p21.3-6p21.3  
A:Introns: 62/3; 78/1; 94/1  
C:Complex: homotrimer  
C:Superfamily: tumor necrosis factor  
C:Keywords: cytokine; cytotoxin; glycoprotein; homotrimer; lipoprotein; lymphokine; mac  
F:1-76/Domain: propeptide #status predicted <PRO>  
F:77-233/Product: tumor necrosis factor #status experimental <MAT>  
F:19,20/Binding site: myristate (Lys) (covalent) #status experimental  
F:81/Binding site: carbohydrate (Ser) (covalent) (partial) #status experimental  
F:145-177/Disulfide bonds: #status experimental

Query Match 95.7%; Score 779; DB 1; Length 233;  
Best Local Similarity 96.2%; Pred. No. 4.9e-72;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 77 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 136

QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTQVNLNLSAIRSPCORETPEGAEANPWYEPYIL 120  
Db 137 QVLFSGQGCPSHTVLLTHTTISRIVSYQTQVNLNLSAIRSPCORETPEGAEANPWYEPYIL 196

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
Db 197 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 233

RESULT 2  
S22052  
tumor necrosis factor alpha precursor - baboon

C:Species: Papio sp. (baboon)  
C>Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C:Accession: S22052  
R:Sanjanwala, M.; Edwards, A.  
A:Description: Baboon Tumor Necrosis Factor Derived from Sequences of Genomic DNA.  
A:Reference number: S22052  
A:Accession: S22052  
A>Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-233 <SAN>  
A:Cross-references: UNIPROT:P33620; UNIPARC:UPI00001370C4; EMBL:XG2141; NID:G38159; PIDN:  
C:Genetics:  
A:Introns: 62/3; 78/1; 94/1  
C:Superfamily: tumor necrosis factor  
C:Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein  
F:19,20/Binding site: myristate (Lys) (covalent) #status predicted  
F:81/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:145-177/Disulfide bonds: #status predicted

Query Match 94.8%; Score 772; DB 1; Length 233;  
Best Local Similarity 95.5%; Pred. No. 2.5e-71;  
Matches 150; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 77 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 136

QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTQVNLNLSAIRSPCORETPEGAEANPWYEPYIL 120  
Db 137 QVLFSGQGCPSHTVLLTHTTISRIVSYQTQVNLNLSAIRSPCORETPEGAEANPWYEPYIL 196

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
Db 197 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 233

RESULT 3  
S11688  
tumor necrosis factor alpha precursor - cat  
C:Species: Felis silvestris catus (domestic cat)  
C>Date: 21-Nov-1993 #sequence\_revision 10-Nov-1995 #text\_change 09-Jul-2004  
C:Accession: S11688  
R:McGraw, R.A.; Coffee, B.W.; Otto, C.M.; Drews, R.T.; Rawlings, C.A.  
Nucleic Acids Res. 18, 5563, 1990  
A>Title: Gene sequence of feline tumor necrosis factor alpha.  
A:Reference number: S11688; MUID:91016860; PMID:2216740  
A:Accession: S11688  
A>Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-233 <MCG>  
A:Cross-references: UNIPROT:P19101; UNIPARC:UPI00001370BE; EMBL:X54000; NID:G1084; PIDN:  
C:Genetics:  
A:Introns: 62/3; 78/1; 94/1  
C:Superfamily: tumor necrosis factor  
C:Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein  
F:19,20/Binding site: myristate (Lys) (covalent) #status predicted  
F:81/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:145-177/Disulfide bonds: #status predicted

Query Match 87.5%; Score 712; DB 2; Length 233;  
Best Local Similarity 88.5%; Pred. No. 3.4e-65;  
Matches 139; Conservative 6; Mismatches 12; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 77 LRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 136

QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTQVNLNLSAIRSPCORETPEGAEANPWYEPYIL 120  
Db 137 QVLFSGQGCPSHTVLLTHTTISRIVSYQTQVNLNLSAIRSPCORETPEGAEANPWYEPYIL 196

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157



Db 197 GGVFQLEKGDRLSTEINLPAYLDFAESGGVYFGIIAL 233  
|||||  
RESULT 4  
QJ1344  
tumor necrosis factor alpha precursor - horse  
N;Alternate names: cachectin; TNF alpha  
C;Species: Equus caballus (domestic horse)  
C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C;Accession: JQ1344  
R;Su, X.; Morris, D.D.; McGraw, R.A.  
Gene 107, 319-321, 1991  
A;Title: Cloning and characterization of gene TNF alpha encoding equine tumor necrosis factor  
A;Reference number: JQ1344; MUID:92084125; PMID:1748301  
A;Accession: JQ1344  
A;Molecule type: DNA  
A;Residues: 1-234 <SUX>  
A;Cross-references: UNIPROT:P29553; UNIPARC:UPI00001370BF; GB:M64087; NID:g164244; PIDN:  
C;Comment: This protein is an important proximal mediator of endotoxemia.  
C;Genetics:  
A;Gene: TNF-alpha  
A;Introns: 62/3; 79/1; 95/1  
C;Superfamily: tumor necrosis factor  
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb  
F;78-234/Product: tumor necrosis factor alpha #status predicted <TUM>  
F;19, 20/Binding site: myristate (lys) (covalent) #status predicted  
F;82/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F;146-178/Disulfide bonds: #status predicted  
Query Match 85.6%; Score 697; DB 1; Length 234;  
Best Local Similarity 85.4%; Pred. No. 1.2e-63;  
Matches 134; Conservative 11; Mismatches 12; Indels 0; Gaps 0;  
Qy 1 VRSSSTPDMPVHVAVNPQAGQLWLNRRNALLANGVELRDNLQVVPSSGLYLIYS 60  
|||  
Db 78 LRSSSTPDKPVHVAVNPQAGQLWLSGRNALLANGVLTNDNLQVLPDGLYLIYS 137  
|||  
Qy 61 QVLFSGGCGPSTHVLTHITSRIVASYQTPVNLISAIRSPCQRETPGAEANPWYEPYIL 120  
|||  
Db 138 QVLFSGGCGPSTHVLTHITSRIVASYQTPVNLISAIRSPCHTESPEQAEAKPWYEPYIL 197  
|||  
Qy 121 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
|||  
Db 198 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 234  
|||  
RESULT 5  
S12606  
tumor necrosis factor alpha precursor - pig  
C;Species: Sus scrofa domestica (domestic pig)  
C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C;Accession: S12606; S17290; S18965; I46659  
R;Drews, R.T.; Coffee, B.W.; Prestwood, A.K.; McGraw, R.A.  
Nucleic Acids Res. 18, 5564, 1990  
A;Title: Gene sequence of porcine tumor necrosis factor alpha.  
A;Reference number: S12606; MUID:91016861; PMID:2216741  
A;Accession: S12606  
A;Molecule type: DNA  
A;Residues: 1-232 <DRE>  
A;Cross-references: UNIPROT:P23563; UNIPARC:UPI00001370C6; EMBL:X54001; NID:g21135; PIDN:  
R;Kuhnart, P.; Wuehrich, C.; Peterhans, E.; Pauli, U.  
Gene 102, 171-176, 1991  
A;Title: The porcine tumor necrosis factor-encoding genes: sequence and comparative anal  
A;Reference number: S17289; MUID:91340150; PMID:1874444  
A;Accession: S17290  
A;Molecule type: DNA  
A;Residues: 1-232 <KUH>  
A;Cross-references: UNIPARC:UPI00001370C6; EMBL:X54859; NID:g21132; PIDN:CAA38639.1; PID:  
R;Note: the authors translated the codon GAG for residue 202 as Gly  
R;Choi, C.S.; Molitor, T.W.; Lin, G.F.; Murtaugh, M.P.  
submitted to the EMBL Data Library, January 1991  
A;Description: Complete nucleotide sequence of a cDNA encoding porcine tumor necrosis fa

A;Reference number: S18965  
A;Accession: S18965  
A;Molecule type: mRNA  
A;Residues: 1-232 <CHO>  
A;Cross-references: UNIPARC:UPI00001370C6; EMBL:X57321; NID:g21137; PIDN:CAA40591.1; PID:  
R;Pauli, U.; Beutler, B.; Peterhans, E.  
Gene 81, 185-191, 1989  
A;Title: Porcine tumor necrosis factor alpha: Cloning with the polymerase chain reactio  
A;Reference number: I46659; MUID:90034181; PMID:2478420  
A;Accession: I46659  
A;Status: preliminary; translated from GB/EMBL/DDBJ  
A;Molecule type: mRNA  
A;Residues: 44-232 <PAU>  
A;Cross-references: UNIPARC:UPI000016C6F7; GB:M29079; NID:g164694; PIDN:AAA31128.1; PID:  
C;Genetics:  
A;Introns: 62/3; 78/1; 93/1  
C;Superfamily: tumor necrosis factor  
C;Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; myr  
F;78-232/Product: tumor necrosis factor alpha #status predicted <PRO>  
F;19, 20/Binding site: myristate (lys) (covalent) #status predicted  
F;81/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F;144-176/Disulfide bonds: #status predicted  
Query Match 83.2%; Score 677.5; DB 1; Length 232;  
Best Local Similarity 85.4%; Pred. No. 1.1e-61;  
Matches 134; Conservative 10; Mismatches 12; Indels 1; Gaps 1;  
Qy 1 VRSSSTPDMPVHVAVNPQAGQLWLNRRNALLANGVELRDNLQVVPSSGLYLIYS 60  
|||  
Db 77 LRSSSTQTSKPVHVAVNPQAGQLWQSGYANALLANGVKLDNLQVPTDGLYLIYS 135  
|||  
Qy 61 QVLFSGGCGPSTHVLTHITSRIVASYQTPVNLISAIRSPCQRETPGAEANPWYEPYIL 120  
|||  
Db 136 QVLFSGGCGPSTHVLTHITSRIVASYQTPVNLISAIRSPCQRETPGAEAKPWYEPYIL 195  
|||  
Qy 121 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
|||  
Db 196 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 232  
|||  
RESULT 6  
QWMSN  
tumor necrosis factor alpha precursor - mouse  
N;Alternate names: cachectin; TNF alpha  
C;Species: Mus musculus (house mouse)  
C;Date: 31-Mar-1988 #sequence\_revision 31-Mar-1988 #text\_change 09-Jul-2004  
C;Accession: A22908; S03791; A23164; A23127; A34251; I59058; A36696  
R;Shirai, T.; Shimizu, N.; Shiojiri, S.; Horiguchi, S.; Ito, H.  
DNA 7, 193-201, 1988  
A;Title: Cloning and expression in Escherichia coli of the gene for mouse tumor necrosi  
A;Reference number: A22908; MUID:88224564; PMID:2836146  
A;Accession: A22908  
A;Molecule type: DNA  
A;Residues: 1-235 <SHI>  
A;Cross-references: UNIPROT:P06804; UNIPARC:UPI0000022334; GB:M20155  
R;Shakhov, A.N.; Nedospasov, S.A.  
Bioorg. Khim. 13, 701-705, 1987  
A;Title: Molecular cloning of the genes coding for tumor necrosis factors: complete nuc  
A;Reference number: S03791; MUID:87298639; PMID:3040015  
A;Accession: S03791  
A;Molecule type: DNA  
A;Residues: 1-235 <SHA>  
A;Cross-references: UNIPARC:UPI0000022334; GB:M38296; NID:g202086; PIDN:AAA40459.1; PID:  
R;Semon, D.; Kawashima, E.; Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.  
Nucleic Acids Res. 15, 9083-9084, 1987  
A;Title: Nucleotide sequence of the murine TNF locus, including the TNF-alpha-(tumor ne  
A;Reference number: A93679; MUID:88067722; PMID:3684584  
A;Accession: A27303  
A;Molecule type: DNA  
A;Residues: 1-235 <SEM>  
A;Cross-references: UNIPARC:UPI0000022334; GB:Y00467; NID:g54830; PIDN:CAA68530.1; PID:

R;Pennica, D.; Hayflick, J.S.; Bringman, T.S.; Palladino, M.A.; Goeddel, D.V.  
Proc. Natl. Acad. Sci. U.S.A. 82, 6060-6064, 1985  
A>Title: Cloning and expression in Escherichia coli of the cDNA for murine tumor necrosis factor  
A:Reference number: A25164; MUID:85298296; PMID:3898078  
A:Accession: A25164  
A:Molecule type: mRNA  
A:Residues: 1-235 <PN>  
A:Cross-references: UNIPARC:UPI000022334; GB:M11731; NID:g202084; PIDN:AAA0458.1; PID:  
R;Fransen, L.; Muller, R.; Marneiden, A.; Tavernier, J.; van der Heyden, J.; Kawashima,  
Nucleic Acids Res. 13, 4417-4429, 1985  
A>Title: Molecular cloning of mouse tumour necrosis factor cDNA and its eukaryotic expression  
A:Reference number: A23127; MUID:85242112; PMID:2989794  
A:Accession: A23127  
A:Molecule type: mRNA  
A:Residues: 1-235 <FRA>  
A:Cross-references: UNIPARC:UPI000022334; GB:X02611; NID:g54844; PIDN:CAA26457.1; PID:  
R;Cash, K.; Beutler, B.  
J. Biol. Chem. 264, 16256-16260, 1989  
A>Title: Alternative cleavage of the cachectin/tumor necrosis factor propeptide results  
A:Reference number: A34251; MUID:89380231; PMID:2777790  
A:Accession: A34251  
A:Molecule type: protein  
A:Residues: 70-87 <CSE>  
A:Cross-references: UNIPARC:UPI00001735CF  
R;Caput, D.; Beutler, B.; Hartog, K.; Thayer, R.; Brown-Shimer, S.L.; Cerami, A.  
Proc. Natl. Acad. Sci. U.S.A. 83, 1670-1674, 1986  
A>Title: Identification of a common nucleotide sequence in the 3'-untranslated region of  
A:Reference number: I59058; MUID:86149365; PMID:2419912  
A:Accession: I59058  
A>Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: mRNA  
A:Residues: 1-230,'R',232-235 <RES>  
A:Cross-references: UNIPARC:UPI000016D086; GB:M13049; NID:g202082; PIDN:AAA0457.1; PID:  
R;Sherry, B.; Jue, D.M.; Zentella, A.; Cerami, A.  
Biochem. Biophys. Res. Commun. 173, 1072-1078, 1990  
A>Title: Characterization of high molecular weight glycosylated forms of murine tumor ne  
A:Reference number: A36696; MUID:91097531; PMID:2268312  
A:Accession: A36696  
A:Molecule type: protein  
A:Residues: 80-85,'X',87-99 <SHE>  
A:Cross-references: UNIPARC:UPI00001735D0  
C:Genetics:  
A:Introns: 62/3; 81/1; 97/1  
A>Note: the first intron occurs in the 5'-untranslated region  
C:Superfamily: tumor necrosis factor  
C:Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb  
F;80-235/Product: tumor necrosis factor #status experimental <MAT>  
F;20/Binding site: myristate (lys) (covalent) #status predicted  
F;84/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F;86/Binding site: carbohydrate (Asn) (covalent) #status predicted  
F;148-179/Disulfide bonds: #status predicted

Query Match 77.9%; Score 634.5; DB 1; Length 235;  
Best Local Similarity 75.2%; Pred. No. 2.9e-57;  
Matches 118; Conservative 21; Mismatches 17; Indels 1; Gaps 1;

Qy 1 VRSSRRTPSPMPVAHVAVNPQAEGQLQWLRANALLANGVELRDNLVVPSEGGLYLIYS 60  
Db 80 LRSSNSSQSKPVAHVAVNHQHVEQLSELWSQRANALLANGMDLKDNLQVVPADGLYLVIIS 139  
Qy 61 QVLPSGGQCSTHLLTHTTSIRIAVSQTVPNLLSAIRSRCQRETPGAEANPMYEPIYL 120  
Db 140 QVLFKGGCCPD-YVLLTHTTVSRFAISYQEKVNLLSAVKSPCKDTPSGAELKPWEPIYL 198  
Qy 121 GGVFQLEPGDRLSAEINRPDYLDPAESGVYFGIIAL 157  
Db 199 GGVFQLEKGDQLSAEVLNPKYLDPAESGVYFGVIAL 235

RESULT 7  
A25451  
tumor necrosis factor alpha precursor - rabbit  
N:Alternate names: cachectin; TNF alpha



F:33/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:97-129/Disulfide bonds: #status predicted

Query Match 77.5%; Score 631; DB 2; Length 185;  
Best Local Similarity 77.7%; Pred. No. 4.9e-57;  
Matches 122; Conservative 15; Mismatches 20; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 29 LRSSSQASNKPVAHVADINSPGQLRWDSYANALMANGVKLEDNLQVVPADGLYLIYS 88

QY 61 QVLFSGQCPSTHVLTHTTISRIASVYQTPVNLLSAIRSPCORETPEGAEANPWYPIYL 120  
DB 89 QVLFSGQCPSTPLFLTHTTISRIASVYQTKVNLISAIKSPCHRETPEWAEAKPWYPIYQ 148

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 149 GGVFQLEKGRDLSAEINLPDYLDYAESGQVYFGIIAL 185

RESULT 9  
S24642  
tumor necrosis factor alpha precursor - bovine  
C:Species: Bos primigenius taurus (cattle)  
C:Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C:Accession: I46047; S24642  
R:Cluett, I.; Cleuter, Y.; Kettmann, R.; Burny, A.; Droogmans, L.  
Cytokine 5, 336-341, 1993  
A:Title: Cloning and characterization of the tandemly arranged bovine lymphotoxin and tu  
A:Reference number: I46046; MUID:94083525; PMID:8260599  
A:Accession: I46047  
A:Status: preliminary; translated from GB/EMBL/DDBJ  
A:Molecule type: DNA  
A:Residues: 1-233 <CL2>  
A:Cross-references: UNIPROT:Q06599; UNIPARC:UPI0000137088; EMBL:Z14137; NID:g796; PIDN:C  
C:Genetics:  
A:Introns: 62/3; 78/1; 94/1  
C:Superfamily: tumor necrosis factor  
C:Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein  
F:20/Binding site: myristate (Lys) (covalent) #status predicted  
F:81/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:145-177/Disulfide bonds: #status predicted

Query Match 77.5%; Score 631; DB 1; Length 233;  
Best Local Similarity 77.7%; Pred. No. 6.6e-57;  
Matches 122; Conservative 15; Mismatches 20; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 77 LRSSSQASNKPVAHVADINSPGQLRWDSYANALMANGVKLEDNLQVVPADGLYLIYS 136

QY 61 QVLFSGQCPSTHVLTHTTISRIASVYQTPVNLLSAIRSPCORETPEGAEANPWYPIYL 120  
DB 137 QVLFSGQCPSTPLFLTHTTISRIASVYQTKVNLISAIKSPCHRETPEWAEAKPWYPIYQ 196

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 197 GGVFQLEKGRDLSAEINLPDYLDYAESGQVYFGIIAL 233

RESULT 10  
JH0529  
tumor necrosis factor alpha precursor - sheep  
N:Alternate names: cachectin; TNF alpha  
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)  
C:Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C:Accession: JH0529; S48118; S13114; S20661  
R:Green, I.R.; Sargan, D.R.  
Gene 109, 203-210, 1991  
A:Title: Sequence of the cDNA encoding ovine tumor necrosis factor-alpha: problems with  
A:Reference number: JH0529; MUID:92112044; PMID:1765267  
A:Accession: JH0529

A:Molecule type: mRNA  
A:Residues: 1-234 <GRE>  
A:Cross-references: UNIPROT:P23383; UNIPARC:UPI000002CD39; EMBL:X55152; NID:g1405; PIDN  
A:Experimental source: alveolar macrophage  
R:Nash, A.D.; Barcham, G.J.; Brannon, M.R.; Andrews, A.B.  
Immunol. Cell Biol. 69, 273-283, 1991  
A:Title: Molecular cloning, expression and characterization of ovine TNF-alpha.  
A:Reference number: S48118; MUID:92155784; PMID:1786996  
A:Accession: S48118  
A:Status: preliminary  
A:Molecule type: mRNA  
A:Residues: 1-234 <NAS>  
A:Cross-references: UNIPARC:UPI000002CD39; EMBL:X56756; NID:g297806; PIDN:CAA40076.1; P  
R:Young, A.J.; Hay, J.B.; Chan, J.Y.C.  
Nucleic Acids Res. 18, 6723, 1990  
A:Title: Primary structure of ovine tumor necrosis factor alpha cDNA.  
A:Reference number: S13114; MUID:91067496; PMID:2251151  
A:Accession: S13114  
A:Status: preliminary  
A:Molecule type: mRNA  
A:Residues: 1-62,64-234 <YOU>  
A:Cross-references: UNIPARC:UPI000016C4EC; EMBL:X55966; NID:g1403; PIDN:CAA39437.1; PID  
A:Note: comparison with the introns of homologous sequences suggest that this is probabl  
C:Superfamily: tumor necrosis factor  
C:Keywords: alternative splicing; cytokine; cytotoxin; glycoprotein; lipoprotein; lymph  
F:1-77/Domain: propeptide #status predicted <PRO>  
F:78-234/Product: tumor necrosis factor alpha #status predicted <TUM>  
F:20/Binding site: myristate (Lys) (covalent) #status predicted  
F:82/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:96/Binding site: carbohydrate (Asn) (covalent) #status predicted  
F:146-178/Disulfide bonds: #status predicted

Query Match 77.3%; Score 629; DB 1; Length 234;  
Best Local Similarity 77.7%; Pred. No. 1.1e-56;  
Matches 122; Conservative 15; Mismatches 20; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 78 LRSSSQASNKPVAHVANISAPGQLRWGDSYANALMANGVELKONQVVPDGLYLIYS 137

QY 61 QVLFSGQCPSTHVLTHTTISRIASVYQTPVNLLSAIRSPCORETPEGAEANPWYPIYL 120  
DB 138 QVLFSGQCPSTPLFLTHTTISRIASVYQTKVNLISAIKSPCHRETLEGAEAKPWYPIYQ 197

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 198 GGVFQLEKGRDLSAEINLPDYLDYAESGQVYFGIIAL 234

RESULT 11  
I54490  
tumor necrosis factor alpha precursor - white-footed mouse  
C:Species: Peromyscus leucopus (white-footed mouse)  
C:Date: 02-Aug-1996 #sequence\_revision 02-Aug-1996 #text\_change 09-Jul-2004  
C:Accession: I54490  
R:Crew, M.D.; Filipowsky, M.E.  
Immunogenetics 35, 351-353, 1992  
A:Title: Sequence of the tumor necrosis factor/cachectin (TNF) gene from Peromyscus leu  
A:Reference number: I54490; MUID:92218012; PMID:1348497  
A:Accession: I54490  
A:Status: preliminary; translated from GB/EMBL/DDBJ  
A:Molecule type: DNA  
A:Residues: 1-235 <RES>  
A:Cross-references: UNIPROT:P36939; UNIPARC:UPI00001370C5; GB:M59233; NID:g202506; PIDN  
C:Genetics:  
A:Gene: PLTNF  
A:Introns: 62/3; 81/1; 97/1  
C:Superfamily: tumor necrosis factor  
C:Keywords: glycoprotein; lipoprotein; myristylation  
F:19,20/Binding site: myristate (Lys) (covalent) #status predicted  
F:84/Binding site: carbohydrate (Ser) (covalent) #status predicted

Query Match 77.2%; Score 628.5; DB 2; Length 235;

Best Local Similarity 75.2%; Pred. NO. 1.2e-56;  
Matches 118; Conservative 21; Mismatches 17; Indels 1; Gaps 1;

Qy	1	V	R	S	S	R	T	P	S	D	M	P	V	A	H	V	V	A	N	P	O	E	G	O	L	W	N	R	P	A	N	A	L	L	A	N	G	V	E	L	R	D	N	O	L	V	P	S	E	G	L	Y	I	S	60	
Db	80	L	R	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	139					
Qy	61	Q	V	L	F	S	G	G	G	G	C	P	S	T	H	L	L	T	H	T	S	I	A	V	S	Y	O	T	P	N	V	L	S	A	T	R	S	P	C	O	R	T	P	P	G	A	S	A	N	P	W	P	I	Y	L	120
Db	140	Q	V	L	F	K	O	G	G	-	S	S	V	L	L	T	H	T	V	S	R	F	A	V	S	Y	E	D	K	N	V	L	S	A	T	K	S	C	P	K	E	T	P	B	S	E	L	K	P	W	Y	E	I	Y	198	
Qy	121	G	G	V	F	O	L	E	P	G	D	R	L	S	A	E	N	R	P	D	L	D	F	A	E	S	G	O	V	F	G	I	A	L	157																					
Db	199	G	G	V	F	O	L	E	K	G	D	R	L	S	A	E	N	L	P	K	L	D	F	A	E	S	G	O	V	F	G	I	A	L	235																					



**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioacceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:53 ; Search time 53.5 seconds  
(without alignments)  
2070.429 Million cell updates/sec

Title: US-10-668-178-13

Perfect score: 814

Sequence: 1 VRSSRTSDMEVHVHVP.....RPDYLDFAESGVYFGIALL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Uniprot\_05.80:\*

1: uniprot\_sprot:\*

2: uniprot\_trembl:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	779	95.7	233	1	TNFA_HUMAN
2	779	95.7	233	2	Q55TB3_HUMAN
3	772	94.8	233	1	TNFA_PAPSP
4	770	94.6	232	1	TNFA_PANTR
5	761	93.5	233	1	TNFA_MACMU
6	758	93.1	233	1	TNFA_MACFA
7	757	93.0	233	1	TNFA_PAPHU
8	754	92.6	233	1	TNFA_PAPAN
9	744	91.4	149	2	Q97543_AOTNA
10	738	90.7	233	1	TNFA_CANFA
11	731	89.8	233	1	TNFA_FELCA
12	708	87.0	233	1	TNFA_SAISC
13	702	86.2	149	2	Q97538_AOTVO
14	702	86.2	149	2	Q97538_AOTNI
15	697	85.6	234	1	TNFA_HORSE
16	691	84.9	217	2	Q9BBG0_CYCDI
17	687	84.4	233	1	TNFA_DELLE
18	679	83.4	233	1	TNFA_PIG
19	677	83.2	232	1	TNFA_TURTR
20	661	81.2	233	1	TNFA_TURTR
21	652	80.1	217	2	Q9BBF4_CABUN
22	649	79.7	138	2	Q9TTG7_AOTLE
23	641	78.7	234	1	TNFA_CAPHI
24	638	78.4	234	2	Q532M5_CAPHI
25	637	78.3	234	1	TNFA_CAVPO
26	635	78.0	216	2	Q9BEC4_TALEU
27	634.5	77.9	235	1	TNFA_MOUSE
28	633.5	77.8	235	1	TNFA_RABIT
29	633	77.8	234	2	Q539C2_TUPTA
30	632	77.6	229	1	TNFA_CEREL
31	631	77.5	233	1	TNFA_BOVIN

32	631	77.5	233	1	TNFA_BUBBU	P59693 bubalus bub
33	631	77.5	234	1	TNFA_BOSIN	P59684 bos indicus
34	629	77.3	234	1	TNFA_SHEEP	P33383 ovis aries
35	628.5	77.2	235	1	TNFA_PERLE	P36939 peromyscus
36	623.5	76.6	235	2	Q5W9H9_MERUN	Q5W9H9 meriones un
37	622.5	76.5	232	2	Q80XA4_PERMA	Q80XA4 peromyscus
38	619.5	76.1	235	1	TNFA_RAT	P16599 rattus norv
39	619.5	76.1	235	2	Q6EE11_RAT	Q6EE11 rattus norv
40	617	75.8	233	1	TNFA_CAMBA	Q75293 camelus bac
41	617	75.8	233	1	TNFA_LAMGL	P59694 lama glama
42	611.5	75.1	156	2	Q91ZL4_SIGHI	Q91ZL4 sigmodon hi
43	604.5	74.3	233	1	TNFA_MARMO	Q35734 marmota mon
44	604.5	74.3	233	2	Q6X658_MARMO	Q6X658 marmota mon
45	601.5	73.9	216	2	Q9BEC9_OCHPR	Q9BEC9 ochotona pr

## ALIGNMENTS

### RESULT 1

TNFA\_HUMAN STANDARD; PRT; 233 AA.  
AC P01375; O43647; Q9P1Q2; Q9UIV3;  
DT 21-JUL-1986 (Rel. 01, Created)  
DT 21-JUL-1986 (Rel. 01, Last sequence update)  
DT 13-SEP-2005 (Rel. 48, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
GN Name:TNF; Synonyms:TNFA, TNFSP2;  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=87217060; PubMed=3555974;  
RA Nedopeasov S.A., Shakhov A.N., Turetskaya R.L., Mett V.A.,  
RA Azizov M.M., Georgiev G.P., Korobko V.G., Dobrynin V.N.,  
RA Filippov S.A., Bystron N.S., Boldyreva E.P., Chuvpilo S.A.,  
RA Chumakov A.M., Shingirova L.N., Ovchinnikov Y.A.,  
RT "Random arrangement of genes coding for tumor necrosis factor (TNF-  
alpha) and lymphotoxin (TNF-beta) in the human genome.";  
Cold Spring Harb. Symp. Quant. Biol. 51:611-624 (1986).  
RN [2]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=85086244; PubMed=6392892;  
RA Pennica D., Nedwin G.E., Hayflick J.S., Seeburg P.H., Derynck R.,  
RA Palladino M.A., Kohr W.J., Aggarwal B.B., Goeddel D.V.;  
RT "Human tumour necrosis factor: precursor structure, expression and  
homology to lymphotoxin.";  
Nature 312:724-729 (1984).  
RN [3]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=85137898; PubMed=383195;  
RA Shira T., Yamaguchi H., Ito H., Todd C.W., Wallace R.B.;  
RT "Cloning and expression in Escherichia coli of the gene for human  
tumour necrosis factor.";  
Nature 313:803-806 (1985).  
RN [4]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=86016093; PubMed=2995927;  
RA Nedwin G.E., Naylor S.L., Sakaguchi A.Y., Smith D.H.,  
RA Jarrett-Nedwin J., Pennica D., Goeddel D.V., Gray P.W.;  
RT "Human lymphotoxin and tumor necrosis factor genes: structure,  
homology and chromosomal localization.";  
Nucleic Acids Res. 13:6361-6373 (1985).  
RN [5]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=85142190; PubMed=3856324;  
RA Wang A.M., Creasey A.A., Ladner M.B., Lin L.S., Strickler J.,  
RA van Arsdel J.N., Yamamoto R., Mark D.F.;

- RT "Molecular cloning of the complementary DNA for human tumor necrosis factor." Science 228:149-154(1985).
- RA NUCLEOTIDE SEQUENCE.
- RX MEDLINE=86030269; PubMed=3932069;
- RA Marnenout A., Fransen L., Tavernier J., van der Heyden J., Tizard R., Kawashina E., Shaw A., Johnson M.J., Semon D., Mueller R., Ruysschaert M.R., van Vliet A., Fiers W.;
- RT "Molecular cloning and expression of human tumor necrosis factor and comparison with mouse tumor necrosis factor." Eur. J. Biochem. 152:515-522(1985).
- RA NUCLEOTIDE SEQUENCE.
- RX MEDLINE=93272029; PubMed=8499947;
- RA Iris F.J.M., Bougueleret L., Prieur S., Caterina D., Primas G., Perrot V., Jurka J., Rodriguez-Tome P., Claverie J.-M., Dausset J., Cohen D.;
- RT "Dense Alu clustering and a potential new member of the NF kappa B family within a 90 kilobase HLA class III segment." Nat. Genet. 3:137-145(1993).
- RA NUCLEOTIDE SEQUENCE.
- RX MEDLINE=99218514; PubMed=10202016;
- RA Neville M.J., Campbell R.D.;
- RT "A new member of the Ig superfamily and a V-ATPase G subunit are among the predicted products of novel genes close to the TNF locus in the human MHC." J. Immunol. 162:4745-4754(1999).
- RA NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
- RX PubMed=14656967; DOI=10.1101/gr.1736803;
- RA Xie T., Rowen L., Aguado B., Ahern M.E., Madan A., Qin S., Campbell R.D., Hood L.;
- RT "Analysis of the gene-dense major histocompatibility complex class III region and its comparison to mouse." Genome Res. 13:2621-2636(2003).
- RA NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
- RX Shiina S., Tamiya G., Oka A., Inoko H.;
- RT "Homo sapiens 2,229,817bp genomic DNA of 6p21.3 HLA class I region." Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.
- RA NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
- RX Shiina T., Ota M., Katsuyama Y., Hashimoto N., Inoko H.;
- RT "Genome diversity in HLA: a new strategy for detection of genetic polymorphisms in expressed genes within the HLA class III and class I regions." Submitted (JUL-2002) to the EMBL/GenBank/DBJ databases.
- RA NUCLEOTIDE SEQUENCE [GENOMIC DNA].
- RX Rieder M.J., Carrington D.P., Chung M.-W., Lee K.L., Poel C.L., Yi Q., Nickerson D.A.;
- RT "SeattleSNPs, NHLBI HL6682 program for genomic applications, UW-FHCRC, Seattle, WA (URL: <http://pga.gs.washington.edu>);" Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.
- RA NUCLEOTIDE SEQUENCE [GENOMIC DNA], AND VARIANT LEU-84.
- RX Rieder M.J., Livingston R.J., Daniels M.R., Montoya M.A., Chung M.-W., Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D., Schackwitz W.S., Sherwood J.K., Witrak L.A., Nickerson D.A.;
- RT "NIHES-SNPs, environmental genome project, NIHES ES15478, Department of Genome Sciences, Seattle, WA (URL: <http://egp.gs.washington.edu>);" Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.
- RA NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
- RC TISSUE=Blood.
- RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
- RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Altshul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., Rana S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahey J., Helton E., Kettman M., Madan A.C., Rodriguez S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakeley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalios D.E., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
- RT "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences." Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
- RA NUCLEOTIDE SEQUENCE OF 77-233.
- RX Jang J.S., Kim B.E.;
- RT Submitted (JAN-1998) to the EMBL/GenBank/DBJ databases.
- RA NUCLEOTIDE SEQUENCE OF 84-214.
- RX TISSUE=Prostatic carcinoma;
- RT Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
- RA SHAO C., Yan W., Zhu F., Yue W., Chai Y., Zhao Z., Wang C.;
- RT "Phosphorylation of the 26 kDa TNF precursor in monocytic cells and in transfected HeLa cells." J. Inflamm. 45:152-160(1995).
- RA PHOSPHORYLATION BY CK1, AND DEPHOSPHORYLATION.
- RX MEDLINE=9221647; PubMed=10205166; DOI=10.1093/emboj/18.8.2119;
- RA Watts A.D., Hunt N.H., Wanigasekara Y., Bloomfield G., Wallach D., Roufogalis B.D., Chaudhri G.;
- RT "A casein kinase I motif present in the cytoplasmic domain of members of the tumor necrosis factor ligand family is implicated in 'reverse signalling'." EMBO J. 18:2119-2126(1999).
- RA MUTAGENESIS.
- RX MEDLINE=91184128; PubMed=2009860;
- RT Oscade X.V., Tavernier J., Prange T., Fiers W.;
- RT "Localization of the active site of human tumor necrosis factor (hTNF) by mutational analysis." EMBO J. 10:827-836(1991).
- RA MYRISTOYLATION.
- RX MEDLINE=93018820; PubMed=1402651; DOI=10.1084/jem.176.4.1053;
- RT Stevenson F.T., Bursten S.L., Locksley R.M., Lovett D.H.;
- RT "Myristyl acylation of the tumor necrosis factor alpha precursor on specific lysine residues." J. Exp. Med. 176:1053-1062(1992).
- RA CLEAVAGE BY ADAM17.
- RX MEDLINE=97186575; PubMed=9034191;
- RA Moss M.L., Jin S.-L.C., Milla M.E., Burkhardt W., Carter H.L., Chen W.-J., Clay W.C., Didsbury J.R., Haessler D., Hoffman C.R., Kost T.A., Lambert M.H., Leesnitzer M.A., McCauley P., McGeehan G., Mitchell J., Moyer M., Pabel G., Rocque W., Overton L.K., Schoenen F., Seaton T., Su J.-L., Warner J., Willard D., Becherer J.D.;
- RT "Cloning of a disintegrin metalloproteinase that processes precursor tumour-necrosis factor-alpha." Nature 385:733-736(1997).
- RA X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
- RX MEDLINE=89159409; PubMed=2922050; DOI=10.1038/338225a0;
- RA Jones E.Y., Stuart D.I., Walker N.P.;
- RT "Structure of tumour necrosis factor." Nature 338:225-228(1989).
- RA X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).



```
SQ SEQUENCE 233 AA; 25557 MW; 455360B48DC74173 CRC64;
Query Match 94.8%; Score 772; DB 1; Length 233;
Best Local Similarity 95.5%; Pred. No. 1.3e-69;
Matches 150; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

QY 1 VRSSRTSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLYS 60
Db 77 VRSSRTSDKPKVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLYS 136

QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCQRETPGAEANPWYEPYIL 120
Db 137 QVLFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCQRETPGAEANPWYEPYIL 196

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 197 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 233

RESULT 4
TNFA_PANTR
ID TNFA_PANTR STANDARD; PRT; 232 AA.
AC Q8HZD9;
DT 10-OCT-2003 (Rel. 42, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name=TNF; Synonyms=TNFA, TNFSF;
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Pan.
OX NCBI_TaxID=9598;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22381002; PubMed=12493009;
RX DOI=10.1034/j.1600-065X.2002.19008.x;
RA Anzai T., Shiina T., Kimura N., Yanagita K., Kohara S., Shigenari A.,
RA Yamagata T., Kuleki J.K., Naruse T.K., Fujimori Y., Fukuzumi Y.,
RA Yamazaki M., Tashiro H., Imamoto C., Umehara Y., Imanishi T.,
RA Meyer A., Ikeo K., Gojobori T., Bahram S., Inoko H.,
RT "Comparative sequencing of human and chimpanzee MHC class I regions
RT unveils insertions/deletions as the major path to genomic
RT divergence."
RL Immunol. Rev. 190:95-122(2002).
RN [2]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX MEDLINE=22709134; PubMed=12799463; DOI=10.1073/pnas.1230533100;
RA Anzai T., Shiina T., Kimura N., Yanagita K., Kohara S., Shigenari A.,
RA Yamagata T., Kuleki J.K., Naruse T.K., Fujimori Y., Fukuzumi Y.,
RA Yamazaki M., Tashiro H., Imamoto C., Umehara Y., Imanishi T.,
RA Meyer A., Ikeo K., Gojobori T., Bahram S., Inoko H.,
RT "Comparative sequencing of human and chimpanzee MHC class I regions
RT unveils insertions/deletions as the major path to genomic
RT divergence."
RL Proc. Natl. Acad. Sci. U.S.A. 100:7708-7713(2003).
RN [3]
RP NUCLEOTIDE SEQUENCE OF 33-186.
RA O'Huigin C., Tichy H., Klein J.;
RT "Molecular evolution in higher primates; gene specific and organism
RT specific characteristics."
RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia. Under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation (By similarity).
CC -1- SUBUNIT: Homotrimer (By similarity).
CC -1- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -1- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -1- PTM: The membrane form, but not the soluble form, is
```

```
CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -1- SIMILARITY: Belongs to the tumor necrosis factor family.
CC -----
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC -----
CC EMBL; AB054536; BAB83882.1; -; Genomic DNA.
CC EMBL; BA000041; BAC78157.1; -; Genomic DNA.
CC EMBL; AY031964; AAM76582.1; -; Genomic DNA.
CC HSSP; P01375; 4TSV.
CC SMR; Q8HZD9; 81-232.
CC InterPro; IPR006053; TNF_alpha.
CC InterPro; IPR002959; TNF_alpha.
CC InterPro; IPR006052; TNF_family.
CC InterPro; IPR003636; TNF_subf.
CC PANTHER; PTHR11471:SF4; TNF_alpha; 1.
CC Pfam; PF00229; TNF; 1.
CC PRINTS; PR01234; TNECROSISFCT.
CC PRINTS; PR01235; TNFALPHA.
CC ProDom; PD02012; TNF_subf; 1.
CC PROSITE; PS00251; TNF_1; 1.
CC PROSITE; PS00049; TNF_2; 1.
CC Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 232
FT Tumor necrosis factor, membrane form (By
FT similarity).
FT CHAIN 77 232
FT Tumor necrosis factor, soluble form (By
FT similarity).
FT TOPO_DOM 1 34
FT Signal-anchor for type II membrane
FT TRANSMEM 35 57
FT protein (By similarity).
FT SITE 58 232
FT Extracellular (Potential).
FT MOD_RES 2 77
FT Cleavage (by ADAM17) (By similarity).
FT DISULFID 144 176
FT Phosphoserine (by CK1) (By similarity).
FT CONFLICT 77 77
FT G -> VR (in Ref. 3).
SQ SEQUENCE 232 AA; 25446 MW; E4D71B19C6AE0D03 CRC64;
Query Match 94.6%; Score 770; DB 1; Length 232;
Best Local Similarity 96.1%; Pred. No. 2e-69;
Matches 149; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 3 SSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLYS 62
Db 78 SSSRTPSDKPKVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLYS 137

QY 63 LFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCQRETPGAEANPWYEPYIL 122
Db 138 LFSGQGCPSHTVLLTHTISRIASVYQTPVNLLSAIRSPCQRETPGAEANPWYEPYIL 197

QY 123 VFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 198 VFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 232

RESULT 5
TNFA_MACMU
ID TNFA_MACMU STANDARD; PRT; 233 AA.
AC P48094; Q5TM1; Q8HZD6;
DT 01-FEB-1996 (Rel. 33, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name=TNF; Synonyms=TNFA, TNFSF;
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
```



```
OC Cercopithecidae; Cercopithecinae; Macaca.
OX NCBI_TaxID=9544;
RN NUCLEOTIDE SEQUENCE [MRNA].
RP MEDLINE=96003435; PubMed=7561102;
RX Villinger F.J., Brar S.R., Mayne A.E., Chikkala N., Ansari A.A.;
RT "Comparative sequence analysis of cytokine genes from human and
RL nonhuman primates.";
RN J. Immunol. 155:3946-3954(1995).
RN [2]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX PubMed=1269276; DOI=10.1093/molbev/msh216;
RA Kulski J.K., Anzai T., Shiina T., Inoko H.;
RT "Rhesus macaque class I duplicon structures, organization, and
RT evolution within the alpha block of the major histocompatibility
RT complex.";
RN Mol. Biol. Evol. 21:2079-2091(2004).
RN [3]
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA] OF 33-187.
RA O'Huigin C., Tichy H., Klein J.;
RT "Molecular evolution in higher primates; gene specific and organism
RT specific characteristics.";
RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia. Under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation.
CC -!- SUBUNIT: Homotrimer (By similarity).
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -!- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -!- PTM: The membrane form, but not the soluble form, is
CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC -----
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC -----
DR EMBL; U19850; AA086712.1; -; mRNA.
DR EMBL; AB128049; BAD69724.1; -; Genomic DNA.
DR EMBL; AY091967; AAM76585.1; -; Genomic DNA.
DR HSSP; P01375; 4TSV.
DR SMR; P48094; 82-233.
DR InterPro; IPR006053; TNF_abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS50049; TNF_2; 1.
DR Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 233 Tumor necrosis factor, membrane form.
FT CHAIN 77 233 Tumor necrosis factor, soluble form.
FT TOPO_DOM 1 35 Cytoplasmic (Potential).
FT TRANSMEM 36 56 Signal-anchor for type II membrane
FT TOPO_DOM 57 233 protein (Potential).
FT SITE_76 77 Extracellular (Potential).
FT MOD_RES 2 2 Cleavage (by ADAM17) (By similarity).
FT Phosphoserine (by CK1) (By similarity).
```

```
FT DISULFID 145 177 By similarity.
SQ SEQUENCE 233 AA; 25630 MW; 9P6F85050595FD59 CRC64;

Query Match
Best Local Similarity 93.5%; Score 761; DB 1; Length 233;
Matches 148; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 VRSSRTPTSDMEVAHVANPQAEQQLWLNRRANALLANGVELTQNLVVPSEGLYLIYS 60
   |||||
Db 77 VRSSRTPTSDKPEVAHVANPQAEQQLWLNRRANALLANGVELTQNLVVPSEGLYLIYS 136

QY 61 QVLFSGQCPSTHVLTTTISRIVSYQTPTNLLSAIRSPCORETEPEGAANPWYPIYL 120
   |||||
Db 137 QVLFGQGPCSNHVLTTTISRIVSYQTPTNLLSAIRSPCORETEPEGAANPWYPIYL 196

QY 121 GGVFQLEPGDRLSAENRPDYLDPAESGOVYFGIALL 157
   |||||
Db 197 GGVFQLEKGDRLSABINLPDYLDPAESGOVYFGIALL 233

RESULT 6
TNFA_MACFA
ID TNFA_MACFA STANDARD; PRT; 233 AA.
AC F79337;
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
DE Name=TNF; Synonyms=TNFA, TNFSF2;
OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC Cercopithecidae; Cercopithecinae; Macaca.
OX NCBI_TaxID=9541;
RN N11
RP NUCLEOTIDE SEQUENCE [MRNA].
RC TISSUE=Lymphocyte;
RA Tatum M.;
RT "Molecular cloning and expression of cynomolgus monkey TNF-alpha.";
Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC TNFSF1B/TNFR. It is mainly secreted by macrophages and can
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia. Under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation.
CC -!- SUBUNIT: Homotrimer (By similarity).
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -!- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -!- PTM: The membrane form, but not the soluble form, is
CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC -----
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC -----
DR EMBL; AB000513; BAA19131.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; P79337; 82-233.
DR InterPro; IPR006053; TNF_abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS50049; TNF_2; 1.
DR Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 233 Tumor necrosis factor, membrane form.
FT CHAIN 77 233 Tumor necrosis factor, soluble form.
FT TOPO_DOM 1 35 Cytoplasmic (Potential).
FT TRANSMEM 36 56 Signal-anchor for type II membrane
FT TOPO_DOM 57 233 protein (Potential).
FT SITE_76 77 Extracellular (Potential).
FT MOD_RES 2 2 Cleavage (by ADAM17) (By similarity).
FT Phosphoserine (by CK1) (By similarity).
```

DR PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 DR Pfam; PF00229; TNF; 1.  
 DR PRINTS; PRO1234; TNECROSISFCT.  
 DR PRINTS; PRO1235; TNFALPHA.  
 DR ProDom; PD002012; TNF subf; 1.  
 DR SMART; SM00207; TNF; 1.  
 DR PROSITE; PS00251; TNF\_1; 1.  
 DR PROSITE; PS50049; TNF\_2; 1.  
 DR Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 KW CHAIN 1 233  
 FT CHAIN 77 233  
 FT TOPO\_DOM 1 35  
 FT TRANSMEM 36 56  
 FT TOPO\_DOM 57 233  
 FT SITE 76 77  
 FT MOD\_RES 2 2  
 FT DISULFID 145 177  
 SQ SEQUENCE 233 AA; 25558 MW; 6ABP2C3AB132C217 CRC64;  
 Query Match 93.1%; Score 759; DB 1; Length 233;  
 Best Local Similarity 93.6%; Pred. No. 3.3e-68;  
 Matches 147; Conservative 2; Mismatches 8; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDMVAVHVNPAEQQLWLNRRANALLANGVELRDNLQVWPSEGGLYIS 60  
 DB 77 VRSSRTSPDKVAVHVNPAEQQLWLNRRANALLANGVELTDNLQVWPSEGGLYIS 136  
 QY 61 QVLFSGQGCPSHVLTLTHTISRIAVSYQTVPNLLSAIRSPCQRETPEGAENPWYEPIYL 120  
 DB 137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVLLSAIKSPCQRETPEGAENPWYEPIYL 196  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
 DB 197 GGVFQLEKGDRLSABINLPDYLDFAESGVYFGIIAL 233  
 RESULT 7  
 TNFA\_PAPAHU STANDARD; PRT; 233 AA.  
 ID TNFA\_PAPAHU  
 AC 077510;  
 DT 15-DEC-1998 (Rel. 37, Created)  
 DT 15-DEC-1998 (Rel. 37, Last sequence update)  
 DT 13-SEP-2005 (Rel. 48, Last annotation update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
 GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Papio hamadryas ursinus (Chacma baboon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;  
 OC Cercopithecoidea; Cercopithecinae; Papio.  
 OX NCBI\_TaxID=36229;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE [MRNA].  
 RX MEDLINE=98147379; PubMed=9488055; DOI=10.1016/S0161-5890(97)00124-7;  
 RA Haudek S.B., Redl H., Schleg G., Giroir B.P.;  
 RT "Complementary DNA (cDNA) sequence of baboon tumor necrosis factor  
 RT alpha.";  
 RL Mol. Immunol. 34:1041-1042(1997).  
 CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
 CC TNFRSF1B/TNFR2. It is mainly secreted by macrophages and can  
 CC induce cell death of certain tumor cell lines. It is potent  
 CC pyrogen causing fever by direct action or by stimulation of  
 CC interleukin 1 secretion and is implicated in the induction of  
 CC cachexia. Under certain conditions it can stimulate cell  
 CC proliferation and induce cell differentiation.  
 CC -!- SUBUNIT: Homotrimer (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
 CC extracellular soluble form (By similarity).  
 CC -!- PTM: The soluble form derives from the membrane form by  
 CC proteolytic processing (By similarity).  
 CC -!- PTM: The membrane form, but not the soluble form, is

phosphorylated on serine residues. Dephosphorylation of the  
 membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
 similarity).  
 -!- SIMILARITY: Belongs to the tumor necrosis factor family.  
 This Swiss-Prot entry is copyright. It is produced through a collaboration  
 between the Swiss Institute of Bioinformatics and the EMBL outstation -  
 the European Bioinformatics Institute. There are no restrictions on its  
 use as long as its content is in no way modified and this statement is not  
 removed.  
 EMBL; AF019963; AAC31675.1; -; mRNA.  
 HSP; P01375; 4TSV.  
 SMR; O77510; 82-233.  
 InterPro; IPR006053; TNF\_abc.  
 InterPro; IPR002959; TNF\_alpha.  
 InterPro; IPR006052; TNF\_family.  
 InterPro; IPR003636; TNF\_subf.  
 PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 Pfam; PF00229; TNF; 1.  
 PRINTS; PRO1234; TNECROSISFCT.  
 PRINTS; PRO1235; TNFALPHA.  
 ProDom; PD002012; TNF subf; 1.  
 SMART; SM00207; TNF; 1.  
 PROSITE; PS00251; TNF\_1; 1.  
 PROSITE; PS50049; TNF\_2; 1.  
 Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 KW CHAIN 1 233  
 FT CHAIN 77 233  
 FT TOPO\_DOM 1 35  
 FT TRANSMEM 36 56  
 FT TOPO\_DOM 57 233  
 FT SITE 76 77  
 FT MOD\_RES 2 2  
 FT DISULFID 145 177  
 SQ SEQUENCE 233 AA; 25658 MW; B9403255058D4A03 CRC64;  
 Query Match 93.0%; Score 757; DB 1; Length 233;  
 Best Local Similarity 93.6%; Pred. No. 4.2e-68;  
 Matches 147; Conservative 1; Mismatches 9; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDMVAVHVNPAEQQLWLNRRANALLANGVELRDNLQVWPSEGGLYIS 60  
 DB 77 VRSSRTSPDKVAVHVNPAEQQLWLNRRANALLANGVELTDNLQVWPSEGGLYIS 136  
 QY 61 QVLFSGQGCPSHVLTLTHTISRIAVSYQTVPNLLSAIRSPCQRETPEGAENPWYEPIYL 120  
 DB 137 QVLFKGQGCPSNHVLLTHTISRIAVSYQTKVLLSAIKSPCQRETPEGAENPWYEPIYL 196  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
 DB 197 GGVFQLEKGDRLSABINLPDYLDFAESGVYFGIIAL 233  
 RESULT 8  
 TNFA\_PAPAN STANDARD; PRT; 233 AA.  
 ID TNFA\_PAPAN  
 AC P59695;  
 DT 10-OCT-2003 (Rel. 42, Created)  
 DT 10-OCT-2003 (Rel. 42, Last sequence update)  
 DT 13-SEP-2005 (Rel. 48, Last annotation update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
 GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Papio anubis (Olive baboon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;  
 OC Cercopithecoidea; Cercopithecinae; Papio.  
 OX NCBI\_TaxID=9555;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.

```

RX MEDLINE=21383618; PubMed=11491535; DOI=10.1007/s002510100322;
RA Villinge F.J., Bostik P., Mayne A.E., King C.L., Genain C.P.,
RA Weiss W.R., Aneari A.A.;
RT "Cloning, sequencing, and homology analysis of nonhuman primate
RL Fas/Fas-ligand and co-stimulatory molecules.";
RL Immunogenetics 53:315-328(2001).
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia, under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation (By similarity).
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -!- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -!- PTM: The membrane form, but not the soluble form, is
CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC -----
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC -----
DR EMBL; AY234222; AA085335.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; P59695; 82-233.
DR InterPro; IPR006053; TNF_abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS50049; TNF_2; 1.
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 233
FT Tumor necrosis factor, membrane form (By
FT similarity).
FT CHAIN 77 233
FT Tumor necrosis factor, soluble form (By
FT similarity).
FT TOPO_DOM 1 34
FT Signal-anchor (Potential).
FT TRANSMEM 35 57
FT protein (By similarity).
FT Extracellular (Potential).
FT TOPO_DOM 58 233
FT Cleavage (by ADAM17) (By similarity).
FT SITE_2 2 2
FT Phosphoserine (by CK1) (By similarity).
FT DISULFID 145 177
FT By similarity.
FT SEQUENCE 233 AA; 25736 MW; 0C477F9EB6CC9909 CRC64;
Query Match 92.6%; Score 754; DB 1; Length 233;
Best Local Similarity 93.6%; Pred. No. 8.4e-68;
Matches 147; Conservative 1; Mismatches 9; Indels 0; Gaps 0;
QY 1 VRSSRTPSDMPVAHVAVNPQAEGQLWLNRRANALLANGVELRDNLQVLPSEGLYLIYS 60
DB 77 VRSSRTPSDKPVAVHVAVNPQAEGQLWLNRRANALLANGVELRDNLQVLPSEGLYLIYS 136
QY 61 QVLFSGGCGSTHLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPEGAEANPWYPIYL 120
DB 137 QVLFKGGCGSPSNHLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPEGAEAKPWYPIYL 196
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157

```

```

Db 197 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 233
RESULT 9
O97543 AOTNA PRELIMINARY; PRT; 149 AA.
ID O97543;
AC O97543;
DT 01-MAY-1999 (TREMBLrel. 10, Created)
DT 01-MAY-1999 (TREMBLrel. 10, Last sequence update)
DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)
DE Tumor necrosis factor alpha (Fragment).
GN Name=TNF-alpha;
OS Aotus nancymae (Ma's night monkey).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC Aotinae; Aotus.
OX NCBI_TaxID=37293;
[1]
RN NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
RT in four species of owl monkey.";
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF014513; AAD01539.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; O97543; 1-149.
DR GO; GO:0015020; C-membrane; IEA.
DR GO; GO:0005164; F-tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P-immune response; IEA.
DR InterPro; IPR006053; TNF_abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS50049; TNF_2; 1.
FT NON TER 1
FT NON TER 149
FT NON TER 149
SQ SEQUENCE 149 AA; 16466 MW; 3C2A6140778EFA8A CRC64;
Query Match 91.4%; Score 744; DB 2; Length 149;
Best Local Similarity 96.0%; Pred. No. 5e-67;
Matches 143; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
QY 8 PSDMPVAHVAVNPQAEGQLWLNRRANALLANGVELRDNLQVLPSEGLYLIYSQVLFSGQ 67
DB 1 PSDKPVAVHVAVNPQAEGQLWLNRRANALLANGVELRDNLQVLPSEGLYLIYSQVLFKQ 60
QY 68 GCFSTHLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPEGAEANPWYPIYLGVPQLE 127
DB 61 GCFSTHLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPEGAEAKPWYPIYLGVPQLE 120
QY 128 PGDRLSAEINRPDYLDFAESGQVYFGIIA 156
DB 121 KGDRLSAEINRPDYLDFAESGQVYFGIIA 149
RESULT 10
TNFA_CANFA STANDARD; PRT; 233 AA.
ID TNFA_CANFA
AC P51742; Q28339;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].

```

GN Name=TNF; Synonyms=TNFA, TNFSF2;  
OS Canis familiaris (Dog).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;  
OC Canis.  
OX NCBI\_TaxID=9615;  
RN [1]\_TNF; Synonyms=TNFA, TNFSF2;  
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].  
RA Fiers W.;  
RT "Tumour necrosis factor."; (In) Sim E. (eds.);  
RL The natural immune system humoral factors, pp.65-119, IRL Press,  
RL Oxford (1993).  
RN NUCLEOTIDE SEQUENCE [MRNA].  
RA Zucker K., Lu P., Fuller L., Athana D., Esquenazi V., Miller J.;  
RT "Cloning and expression of the cDNA for canine tumor necrosis factor-  
RT alpha in E. coli."; (In) Sim E. (eds.);  
RL Lymphokine Res. 13:191-196(1994).  
RN [3].  
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].  
RA Wagner J.L., Faltis Y., Didario D.D.;  
RT "Genomic map of a portion of the canine MHC class I histocompatibility  
RT complex."; (In) Sim E. (eds.);  
RL Submitted (SEP-2003) to the EMBL/GenBank/DBJ databases.  
RN [4].  
RP NUCLEOTIDE SEQUENCE [MRNA] OF 74-205.  
RC STRAIN=Beagle; TISSUE=Blood;  
RA Gilmore W.H., Carter S.D., Bennett M., Barnes A., Kelly D.F.;  
RT "Expression of canine TNF, IL-1 and IL-6 mRNAs in peripheral blood  
RT monocytes and cell lines."; (In) Sim E. (eds.);  
RL Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
CC TNFRSF1B/TNFR2. It is mainly secreted by macrophages and can  
CC induce cell death of certain tumor cell lines. It is potent  
CC pyrogen causing fever by direct action or by stimulation of  
CC interleukin 1 secretion and is implicated in the induction of  
CC cachexia. Under certain conditions it can stimulate cell  
CC proliferation and induce cell differentiation.  
CC -!- SUBUNIT: Homotrimer (By similarity).  
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
CC extracellular soluble form (By similarity).  
CC -!- PTM: The soluble form derives from the membrane form by  
CC proteolytic processing (By similarity).  
CC -!- PTM: The membrane form, but not the soluble form, is  
CC phosphorylated on serine residues. Dephosphorylation of the  
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
CC similarity).  
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.  
CC  
CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
CC  
CC EMBL; X94932; CAA64403.1; -; Genomic DNA.  
CC EMBL; S74068; AAB32391.1; -; mRNA.  
CC EMBL; AY423389; AAR27885.1; -; Genomic DNA.  
CC EMBL; Z70046; CAA93908.1; -; mRNA.  
CC HSSP; P01375; 4TSV.  
CC SMR; P51742; 82-233.  
CC Ensemble; ENSCARG0000000517; Canis familiaris.  
CC InterPro; IPR006053; TNF abc.  
CC InterPro; IPR002959; TNF alpha.  
CC InterPro; IPR006052; TNF family.  
CC InterPro; IPR003636; TNF subf.  
CC PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
CC Pfam; PF00229; TNF; 1.  
CC PRINTS; PR01234; TNCRSISFCT.  
CC PRINTS; PR01235; TNFALPHA.  
CC ProDom; PD002012; TNF subf; 1.  
CC SMART; SM00207; TNF; 1.

DR PROSITE; PS00251; TNF\_1; 1.  
DR PROSITE; PS50049; TNF\_2; 1.  
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
FT CHAIN 1 233  
FT CHAIN 77 233  
FT TOPO\_DOM 1 35  
FT TRANSMEM 36 56  
FT TOPO\_DOM 57 233  
FT SITE 76 77  
FT MOD\_RES 2 2  
FT DISULFID 145 177  
FT CONFLICT 59 60  
FT CONFLICT 66 66  
FT CONFLICT 74 74  
FT CONFLICT 111 111  
FT CONFLICT 116 116  
FT CONFLICT 134 135  
SQ SEQUENCE 233 AA; 25447 MW; 7B2588FBC8B25340 CRC64;  
Query Match 90.7%; Score 738; DB 1; Length 233;  
Best Local Similarity 89.8%; Pred. No. 3.5e-66;  
Matches 141; Conservative 7; Mismatches 9; Indels 0; Gaps 0;  
QY 1 VRSSRTPTSDMPVAVHVNPAEQQLQWLNRRANALLANGVELRDNLVVPSEGLYLYS 60  
Db 77 VKSSRTPTSDMPVAVHVNPAEQQLQWLNRRANALLANGVELTDNLVPSDGLYLYS 136  
QY 61 QVLFSGQCPSTHLLTHHTISRIASVYTPVNLISAIRSPQRETPEGAEANPWYEPIYL 120  
Db 137 QVLFPGQCPSTHLLTHHTISRFVSYQTKVNLISAIKSPQRETPEGTEAKPWYEPIYL 196  
QY 121 GGVFQLEKGRDLRSALINPDPVLDFAESGVYFGIIL 157  
Db 137 GGVFQLEKGRDLRSALINPDPVLDFAESGVYFGIIL 233

## RESULT 11

ID TNFA\_FELCA STANDARD; PRT; 233 AA.  
AC P19101; QBHYMO;  
DT 01-NOV-1990 (Rel. 16, Created)  
DT 10-OCT-2003 (Rel. 42, Last sequence update)  
DT 13-SEP-2005 (Rel. 48, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
OS Name=TNF; Synonyms=TNFA, TNFSF2;  
OS Felis silvestris catus (Cat).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;  
OC Felinae; Felis.  
OX NCBI\_TaxID=9685;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Blood;  
RX MEDLINE=91016860; PubMed=2216740;  
RA McGraw R.A., Coffee B.W., Otto C.M., Drews R.T., Rawlings C.A.;  
RT "Gene sequence of feline tumor necrosis factor alpha."; (In)  
RL Nucleic Acids Res. 18:5563-5563(1990).  
RN [2]  
RP NUCLEOTIDE SEQUENCE [MRNA].  
RC TISSUE=Bone marrow;  
RA Daniel S.L., Brenner C.A., Legendre A.M., Solomon A., Rouse B.T.;  
RT "Feline cytokines TNF alpha and IL-1 beta: PCR cloning and sequencing  
RT of cDNA."; (In) Annu. Rev. Biochem. 60:1-12(1991).  
RN [3]  
RP NUCLEOTIDE SEQUENCE OF 95-185.  
RA Susott E.E., Rollo W.A., Venta P.J., Ewart S.L.;  
RT "Characterization of 8 feline type I markers."; (In) J. Biol. Chem.  
RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and

197 GGVFQLEKGRDLSTEINPAYLDPAESGGVYFGIIAL 233

DB

RESULT 12

TNFA\_SAISC

ID \_TNFA\_SAISC STANDARD; PRT; 233 AA.

AC Q8MKG8;

DT 10-OCT-2003 (Rel. 42, Created)

DT 10-OCT-2003 (Rel. 42, Last sequence update)

DT 13-SEP-2005 (Rel. 48, Last annotation update)

DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor necrosis factor, membrane form; Tumor necrosis factor, soluble form].

DE Names:TNF; Synonyms:TNFA, TNFSF2;

GN Saimiri sciureus (Common squirrel monkey).

OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae; Cebinae; Saimiri.

OC Cebinae; Saimiri.

OX NCBI\_TaxID=9521;

XX [1]

RR NUCLEOTIDE SEQUENCE.

RP MEDLINE=21972723; PubMed=11976788; DOI=10.1007/s00251-002-0443-y;

RX Heraud J.M., Lavergne A., Kazanji M.;

RA "Molecular cloning, characterization, and quantification of squirrel monkey (Saimiri sciureus) Th1 and Th2 cytokines.";

RT Immunogenetics 54:20-29(2002).

RL [2]

RR NUCLEOTIDE SEQUENCE.

RP MEDLINE=22516846; PubMed=12628762; DOI=10.1016/S0165-2427(03)00018-7;

RX Marlen F., Lavergne A., Behr C., Contamin H.;

RA "Sequencing and analysis of genomic DNA and cDNA encoding TNF-alpha in the squirrel monkey (Saimiri sciureus).";

RT Vet. Immunol. Immunopathol. 92:37-43(2003).

CC -/- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent proinflammatory agent and is implicated in the induction of interleukin 1 secretion and is implicated in the induction of cachexia. Under certain conditions it can stimulate cell proliferation and induce cell differentiation (By similarity).

CC -/- SUBUNIT: Homotrimer (By similarity).

CC -/- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an extracellular soluble form (By similarity).

CC -/- PM: The soluble form derives from the membrane form by proteolytic processing (By similarity).

CC -/- PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By similarity).

CC -/- SIMILARITY: Belongs to the tumor necrosis factor family.

CC

CC This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL Outstation - the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not removed.

CC

CC EMBL; AF294760; AAK92047.1; -; mRNA.

CC EMBL; AJ317697; CAD27179.1; -; Genomic\_DNA.

CC EMBL; AJ317698; CAD27180.1; -; mRNA.

CC HSP; P01375; 4TSV.

CC SKR; Q8MKG8; 82-233.

CC InterPro; IPR006053; TNF abc.

CC InterPro; IPR002959; TNF alpha.

CC InterPro; IPR006052; TNF family.

CC InterPro; IPR003636; TNF subf.

CC PANTHER; PTHR11471:SF4; TNF\_alpha; 1.

CC Pfam; PF00229; TNF; 1.

CC PRINTS; PR01234; TNECROSISFCT.

CC PRINTS; PR01235; TNFALPHA.

CC ProDom; PD002012; TNF subf; 1.

CC SMART; SM00207; TNF; 1.

CC PROSITE; PS00251; TNF\_1; 1.

```
DR PROSITE; PS00049; TNF 2; 1.
KW Cytokine; Phosphorylation; Signal-anchor: Transmembrane.
FT CHAIN 1 233
FT Tumor necrosis factor, membrane form (By similarity).
FT CHAIN 77 233
FT Tumor necrosis factor, soluble form (By similarity).
FT TOPO_DOM 1 32
FT TRANSMEM 33 55
FT Cytoplasmic (Potential).
FT Signal-anchor for type II membrane protein (By similarity).
FT TOPO_DOM 56 233
FT SITE 76 233
FT MOD_RES 2 2
FT DISULFID 145 177
FT Phosphoserine (by CK1) (By similarity).
SQ SEQUENCE 233 AA; 25578 MW; 197FB066F744FCAD CRC64;

Query Match 87.0%; Score 708; DB 1; Length 233;
Best Local Similarity 87.3%; Pred. No. 3.8e-63;
Matches 137; Conservative 7; Mismatches 13; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
DB 77 VRSSRIIPSDKPVAVHVPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 136

QY 61 QVLFSGQGPCSTHLLTHTISRIAVSYQTPVNLISAIRSPCCORETPEGAEANPWYEPYVL 120
DB 137 QVLFKGQGPCSTHLLTHTISRIAVSYQAKVNLISAIRSPCCORETPRGAKTHPWYEPYVL 196

QY 121 GGVFQLEKGRDLSAENRPDYLDFAESGVYFGIIAL 157
DB 197 GGVFQLEKGRDLSAENRPDYLDFAESGVYFGIIAL 233

RESULT 13
Q97538 AOTVO
ID Q97538 AOTVO PRELIMINARY; PRT; 149 AA.
AC Q97538;
DT 01-MAY-1999 (Tremblrel. 10, Created)
DT 01-MAY-1999 (Tremblrel. 10, Last sequence update)
DT 01-OCT-2003 (Tremblrel. 25, Last annotation update)
DE Tumor necrosis factor alpha (Fragment).
GN Name=TNF-alpha;
OS Aotus vociferans (Spix's owl monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC Aotinae; Aotus.
OX NCBI_TaxID=571176;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
in four species of owl monkey."
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF014508; RAD01534.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; O97538; 1-149.
DR GO; GO:0016020; C:membrane; IEA.
DR GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P:immune response; IEA.
DR InterPro; IPR006053; TNF_alpha.
DR InterPro; IPR002959; TNF_subf.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRODOM; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS0049; TNF_2; 1.
FT NON_TER 1 149
FT NON_TER 149 149
```

```
SQ SEQUENCE 149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;

Query Match 86.2%; Score 702; DB 2; Length 149;
Best Local Similarity 89.9%; Pred. No. 8.8e-63;
Matches 134; Conservative 5; Mismatches 10; Indels 0; Gaps 0;

QY 8 PSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYSQVLFSGQ 67
DB 1 PSDKPVAVHVPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYSQVLFKGQ 60

QY 68 GCPSTHVLTLTHTISRIAVSYQTPVNLISAIRSPCCORETPEGAEANPWYEPYLVGVFQLE 127
DB 61 GCPSTFMLLTHTISRIAVSYQAKVNLISAIRSPCCORETPRGAKTHPWYEPYLVGVFQLE 120

QY 128 PGDRLSAENRPDYLDFAESGVYFGIITA 156
DB 121 KGDRLSAENRPDYLDFAESGVYFGIITA 149

RESULT 14
Q9TTG8 AOTNI
ID Q9TTG8 AOTNI PRELIMINARY; PRT; 149 AA.
AC Q9TTG8;
DT 01-MAY-2000 (Tremblrel. 13, Created)
DT 01-MAY-2000 (Tremblrel. 13, Last sequence update)
DT 01-OCT-2003 (Tremblrel. 25, Last annotation update)
DE Tumor necrosis factor alpha (Fragment).
GN Name=TNF-alpha;
OS Aotus nigriceps (Black-headed owl monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC Aotinae; Aotus.
OX NCBI_TaxID=571175;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
in four species of owl monkey."
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF097328; AAF21303.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; Q9TTG8; 1-149.
DR GO; GO:0016020; C:membrane; IEA.
DR GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P:immune response; IEA.
DR InterPro; IPR006053; TNF_alpha.
DR InterPro; IPR002959; TNF_subf.
DR InterPro; IPR006052; TNF_family.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRODOM; PD002012; TNF_subf; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS0049; TNF_2; 1.
FT NON_TER 1 149
FT NON_TER 149 149

SQ SEQUENCE 149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;

Query Match 86.2%; Score 702; DB 2; Length 149;
Best Local Similarity 89.9%; Pred. No. 8.8e-63;
Matches 134; Conservative 5; Mismatches 10; Indels 0; Gaps 0;

QY 8 PSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYSQVLFSGQ 67
DB 1 PSDKPVAVHVPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYSQVLFKGQ 60

QY 68 GCPSTHVLTLTHTISRIAVSYQTPVNLISAIRSPCCORETPEGAEANPWYEPYLVGVFQLE 127
DB 61 GCPSTFMLLTHTISRIAVSYQAKVNLISAIRSPCCORETPRGAKTHPWYEPYLVGVFQLE 120

QY 128 PGDRLSAENRPDYLDFAESGVYFGIITA 156
DB 121 KGDRLSAENRPDYLDFAESGVYFGIITA 149
```

QY 128 PGDRLSAEINRPDYLDFAESGQVYFGIIA 156  
 DB 121 KGDRLSAEINLPDYLDFAESGQVYFGIIA 149

RESULT 15  
 ID TNFA\_HORSE STANDARD; PRT; 234 AA.  
 AC P29553; Q9TJ3;  
 DT 01-APR-1993 (Rel. 25, Created)  
 DT 13-SEP-2005 (Rel. 48, Last sequence update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) (Contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form).  
 GN Name:TNF; Synonyms:TNFA, TNFSF2;  
 OS Equus caballus (Horse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.  
 OX NCBI\_TaxID=9796;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RX MEDLINE=92084125; PubMed=1748301; DOI=10.1016/0378-1119(91)90333-7;  
 RA Su X., Morris D.D., McGraw R.A.;  
 RT "Cloning and characterization of gene TNF alpha encoding equine tumor  
 RT necrosis factor alpha.";  
 RL Gene 107:319-331(1991).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE.  
 RC STRAIN=Thoroughbred; TISSUE=Artery;  
 RA Ishida N., Sato F., Hasegawa T.;  
 RT "Molecular cloning of equine tumor necrosis factor-alpha mRNA.";  
 RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.  
 CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
 CC induce cell death of certain tumor cell lines. It is potent  
 CC pyrogen causing fever by direct action or by stimulation of  
 CC interleukin 1 secretion and is implicated in the induction of  
 CC cachexia. Under certain conditions it can stimulate cell  
 CC proliferation and induce cell differentiation.  
 CC -!- SUBUNIT: Homotrimer (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
 CC extracellular soluble form (By similarity).  
 CC -!- PTM: The soluble form derives from the membrane form by  
 CC proteolytic processing (By similarity).  
 CC -!- PTM: The membrane form, but not the soluble form, is  
 CC phosphorylated on serine residues. Dephosphorylation of the  
 CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
 CC similarity).  
 CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.  
 CC  
 CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
 CC between the Swiss Institute of Bioinformatics and the EMBL Outstation -  
 CC the European Bioinformatics Institute. There are no restrictions on its  
 CC use as long as its content is in no way modified and this statement is not  
 CC removed.  
 CC  
 CC EMBL; M64087; AAA30959.1; -; Genomic\_DNA.  
 CC EMBL; AB035735; BAA88349.1; -; mRNA.  
 CC PIR; JQ1344; JQ1344.  
 CC HSP; P01375; IABM.  
 CC SNR; P29553; 83-234.  
 CC InterPro; IPR006053; TNF\_abc.  
 CC InterPro; IPR002959; TNF\_alpha.  
 CC InterPro; IPR006052; TNF\_family.  
 CC InterPro; IPR003636; TNF\_subf.  
 CC PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 CC Pfam; PF00229; TNF; 1.  
 CC PRINTS; PR01234; TNECROSISFCT.  
 CC PRINTS; PR01235; TNFALPHA.  
 CC ProDom; PD002012; TNF\_subf; 1.  
 CC SMART; SM00207; TNF; 1.  
 CC PROSITE; PS00251; TNF\_1; 1.

DR PROSITE; PS0049; TNF 2; 1.  
 KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 FT CHAIN 1 234  
 FT CHAIN 78 234  
 FT TOPO\_DOM 1 35  
 FT TRANSMEM 36 56  
 FT TOPO\_DOM 57 234  
 FT SITE\_ 77 78  
 FT MOD\_RES 2 2  
 FT DISULFID 146 178  
 FT CONFLICT 177 179  
 SQ SEQUENCE 234 AA; 25469 MW; E79ACE91143DF373 CRC64;  
 PCH -> LAN (in Ref. 2).  
 Query Match 85.6%; Score 697; DB 1; Length 234;  
 Best Local Similarity 85.4%; Pred. No. 5e-62;  
 Matches 134; Conservative 11; Mismatches 12; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDQLVVPSEGLYLIYS 60  
 :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||  
 DB 78 LRSSSRTPSDKPAHVANPQAEGLQWLSGRANALLANGVKLTQNLVVPDGLYLIYS 137  
 QY 61 QVLFSGQCGPSTHVLTTHTTISRIANSYQTPVNLSSAIRSPCQRETPEGAEANPWYBPIYL 120  
 :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||  
 DB 138 QVLFKGQCGPSTHVLTTHTTISRLAVSYPSKVNLLSAIKSPCHTESPEQAEAKPWYBPIYL 197  
 QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
 :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||  
 DB 198 GGVFQLEKGDQLSAEINQPNYLDFAESGQVYFGIIAL 234

Search completed: May 5, 2006, 11:26:01  
 Job time : 53.5 secs



**THIS PAGE BLANK (USPTO)**



GenCore version 5.1.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:22:28 ; Search time 15.25 Seconds  
(without alignments)  
851.153 Million cell updates/sec

Title: US-10-668-178-13

Perfect score: 814

Sequence: 1 VRSSKTPSDMPVHVANP.....RPDYLDFABSGQVFGIALL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Issued Patents AA:\*

1: /cgn2\_6/ptodata/1/iaa/5 COMB.pep:\*

2: /cgn2\_6/ptodata/1/iaa/6 COMB.pep:\*

3: /cgn2\_6/ptodata/1/iaa/H COMB.pep:\*

4: /cgn2\_6/ptodata/1/iaa/PCTUS COMB.pep:\*

5: /cgn2\_6/ptodata/1/iaa/RE COMB.pep:\*

6: /cgn2\_6/ptodata/1/iaa/backfile1.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	779	95.7	157	1 US-07-794-400-1	Sequence 1, Appli
2	779	95.7	157	1 US-08-041-648-2	Sequence 2, Appli
3	779	95.7	157	1 US-08-107-235-1	Sequence 1, Appli
4	779	95.7	157	1 US-08-217-529-2	Sequence 2, Appli
5	779	95.7	157	1 US-08-318-193-86	Sequence 86, Appli
6	779	95.7	157	1 US-08-397-470-1	Sequence 1, Appli
7	779	95.7	157	1 US-08-192-102-1	Sequence 1, Appli
8	779	95.7	157	1 US-08-324-799-1	Sequence 1, Appli
9	779	95.7	157	1 US-08-538-875-1	Sequence 1, Appli
10	779	95.7	157	1 US-08-394-6008-17	Sequence 17, Appli
11	779	95.7	157	1 US-08-500-860A-35	Sequence 35, Appli
12	779	95.7	157	1 US-08-192-861A-1	Sequence 1, Appli
13	779	95.7	157	1 US-08-600-783-5	Sequence 5, Appli
14	779	95.7	157	2 US-08-584-031-13	Sequence 13, Appli
15	779	95.7	157	2 US-08-714-9608-1	Sequence 1, Appli
16	779	95.7	157	2 US-09-133-119-1	Sequence 1, Appli
17	779	95.7	157	2 US-08-192-093A-1	Sequence 1, Appli
18	779	95.7	157	2 US-09-598-784-1	Sequence 1, Appli
19	779	95.7	157	2 US-09-496-118B-7	Sequence 7, Appli
20	779	95.7	157	2 US-08-395-456C-17	Sequence 17, Appli
21	779	95.7	157	2 US-08-487-453A-17	Sequence 17, Appli
22	779	95.7	157	2 US-09-582-450-13	Sequence 13, Appli
23	779	95.7	157	2 US-09-534-465-13	Sequence 13, Appli
24	779	95.7	157	2 US-09-756-301B-1	Sequence 1, Appli
25	779	95.7	157	2 US-09-756-398B-1	Sequence 1, Appli
26	779	95.7	157	4 PCT-US92-02190-1	Sequence 1, Appli
27	779	95.7	157	4 PCT-US93-02475-1	Sequence 1, Appli

28	779	95.7	157	4 PCT-US95-02513-17	Sequence 17, Appli
29	779	95.7	157	6 5180811-1	Patent No. 5180811
30	779	95.7	158	2 US-09-645-415A-4	Sequence 4, Appli
31	779	95.7	177	1 US-08-394-600B-21	Sequence 21, Appli
32	779	95.7	177	2 US-08-395-456C-21	Sequence 21, Appli
33	779	95.7	177	2 US-08-487-453A-21	Sequence 21, Appli
34	779	95.7	177	4 PCT-US95-02513-21	Sequence 21, Appli
35	779	95.7	180	2 US-09-645-415A-8	Sequence 8, Appli
36	779	95.7	193	1 US-08-889-909A-3	Sequence 3, Appli
37	779	95.7	193	2 US-09-156-163A-3	Sequence 3, Appli
38	779	95.7	193	2 US-09-982-308B-3	Sequence 3, Appli
39	779	95.7	233	1 US-08-323-445A-10	Sequence 10, Appli
40	779	95.7	233	1 US-08-515-903A-10	Sequence 10, Appli
41	779	95.7	233	1 US-08-912-227-3	Sequence 3, Appli
42	779	95.7	233	1 US-08-230-428B-2	Sequence 2, Appli
43	779	95.7	233	2 US-08-883-086-6	Sequence 6, Appli
44	779	95.7	233	2 US-08-880-342-37	Sequence 37, Appli
45	779	95.7	233	2 US-09-589-287B-3	Sequence 3, Appli

#### ALIGNMENTS

RESULT 1  
US-07-794-400-1  
; Sequence 1, Application US/07794400  
; Patent No. 5422104  
; GENERAL INFORMATION:  
; APPLICANT: Fiers, W.  
; APPLICANT: Tavernier, J.  
; APPLICANT: Van Ostade, X.  
; TITLE OF INVENTION: TNF-Mutains  
; NUMBER OF SEQUENCES: 24  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Hoffmann-La Roche Inc.  
; STREET: 340 Kingsland Street  
; CITY: Nutley  
; STATE: New Jersey  
; COUNTRY: USA  
; ZIP: 07110  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/794,400  
; FILING DATE: 19911120  
; CLASSIFICATION: 435  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: EP 90810901.0  
; FILING DATE: 21-NOV-1990  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Krovatin, William  
; REGISTRATION NUMBER: 33256  
; REFERENCE/DOCKET NUMBER: 4105/136-00  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (201) 235-4387  
; TELEFAX: (201) 235-3500  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 157 amino acids  
; TYPE: AMINO ACID  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; ORIGINAL SOURCE:  
; ORGANISM: Homo sapiens  
; TISSUE TYPE: Blood  
; CELL TYPE: Macrophage  
US-07-794-400-1  
Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;



```

; APPLICANT: Banner, David
; APPLICANT: Leslaue, Werner
; APPLICANT: Letscher, Hansreud
; APPLICANT: Stuber, Dietrich
; TITLE OF INVENTION: Tumor Necrosis Factor Muteins
; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: George M. Gould, Esq., Hoffmann-La Roche Inc.
; STREET: 340 Kingsland Street
; CITY: Nutley
; STATE: New Jersey
; COUNTRY: U.S.
; ZIP: 07110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/217,529
; FILING DATE: 24-MAR-1994
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: EP 93810224.1
; FILING DATE: 29-MAR-1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Roseman, Catherine R
; REGISTRATION NUMBER: 34240
; REFERENCE/DOCKET NUMBER: 4105/155
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (201) 235-6208
; TELEFAX: (201) 235-3500
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-217-529-2

Query Match 95.7%; Score 779; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 9.5e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSSTPSPDMPVAHVAVANPQAGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSSTPSPDMPVAHVAVANPQAGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGGCGPSTHLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPGAEANPWYEPYIL 120
DB 61 QVLFKGCGPSTHLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPGAEAKPWYEPYIL 120
QY 121 GGVFQLEKGRDLAEINRPDYLDFAESGGVYFGIIAL 157
DB 121 GGVFQLEKGRDLAEINRPDYLDFAESGGVYFGIIAL 157

RESULT 5
US-08-318-193-86
; Sequence 86, Application US/08318193
; Patent No. 5641663
; GENERAL INFORMATION:
; APPLICANT: GARVIN, Robert T.
; APPLICANT: MALEK, Lawrence T.
; TITLE OF INVENTION: AN EXPRESSION SYSTEM FOR THE SECRETION
; OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY
; STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS
; PROTEINS FROM STREPTOMYCES
; TITLE OF INVENTION: PROTEINS FROM STREPTOMYCES
; NUMBER OF SEQUENCES: 91
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: 1800 Diagonal Road, Suite 500
; CITY: Alexandria

```

```

; STATE: Virginia
; COUNTRY: USA
; ZIP: 22313-0299
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/318,193
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/07/935,314
; FILING DATE:
; APPLICATION NUMBER: US 07/224,568
; ATTORNEY/AGENT INFORMATION:
; NAME: BENT, Stephen A.
; REGISTRATION NUMBER: 29,768
; REFERENCE/DOCKET NUMBER: 18740/116 CACO
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-9300
; TELEFAX: (703) 883-4109
; TELEX: 899149
; INFORMATION FOR SEQ ID NO: 86:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-318-193-86

Query Match 95.7%; Score 779; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 9.5e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSSTPSPDMPVAHVAVANPQAGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSSTPSPDMPVAHVAVANPQAGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGGCGPSTHLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPGAEANPWYEPYIL 120
DB 61 QVLFKGCGPSTHLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPGAEAKPWYEPYIL 120
QY 121 GGVFQLEKGRDLAEINRPDYLDFAESGGVYFGIIAL 157
DB 121 GGVFQLEKGRDLAEINRPDYLDFAESGGVYFGIIAL 157

RESULT 6
US-08-397-470-1
; Sequence 1, Application US/08397470
; Patent No. 5652353
; GENERAL INFORMATION:
; APPLICANT: Fiers, W.
; APPLICANT: Tavernier, J.
; APPLICANT: Van Oostade, X.
; TITLE OF INVENTION: TNF-Mutins
; NUMBER OF SEQUENCES: 24
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hoffmann-La Roche Inc.
; STREET: 340 Kingsland Street
; CITY: Nutley
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/397,470

```

```
; FILING DATE: 01-MAR-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/794,400
; FILING DATE: 20-NOV-1991
; APPLICATION NUMBER: EP 90810901.0
; FILING DATE: 21-NOV-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Krovatin, William
; REGISTRATION NUMBER: 33256
; REFERENCE/DOCKET NUMBER: 4105/136-00
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (201) 235-4387
; TELEFAX: (201) 235-3500
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; ORGANISM: Homo sapiens
; TISSUE TYPE: Blood
; CELL TYPE: Macrophage
US-08-397-470-1

Query Match 95.7%; Score 779; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 9.5e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVWPSEGLYLIYS 60
Db 1 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVWPSEGLYLIYS 60
QY 61 QVLFSGQGCPSTHLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAENPWEPIYL 120
Db 61 QVLFKGQCPSTHLLTHTISRIAVSYQTKVNLLSAIRSPCORETPEGAENPWEPIYL 120
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 7
US-08-192-102-1
; Sequence 1, Application US/08192102
; Patent No. 5656272
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter E.
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott A.
; TITLE OF INVENTION: ANTI-TNF ANTIBODIES AND ASSAYS EMPLOYING
; TITLE OF INVENTION: ANTI-TNF ANTIBODIES
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
; STREET: Two Militia Drive
; CITY: Lexington
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02173
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/192,102
; FILING DATE: 04-FEB-1994
; CLASSIFICATION: 424
```

```
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/08/192,093
; FILING DATE: 04-FEB-1994
; APPLICATION NUMBER: US 08/013,413
; FILING DATE: 02-FEB-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/010,406
; FILING DATE: 29-JAN-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/943,852
; FILING DATE: 11-SEP-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/853,606
; FILING DATE: 18-MAR-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/670,827
; FILING DATE: 18-MAR-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Brook, David E.
; REGISTRATION NUMBER: 22,592
; REFERENCE/DOCKET NUMBER: NYU93-01M3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617) 861-6240
; TELEFAX: (617) 861-9540
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-192-102-1

Query Match 95.7%; Score 779; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 9.5e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVWPSEGLYLIYS 60
Db 1 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVWPSEGLYLIYS 60
QY 61 QVLFSGQGCPSTHLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAENPWEPIYL 120
Db 61 QVLFKGQCPSTHLLTHTISRIAVSYQTKVNLLSAIRSPCORETPEGAENPWEPIYL 120
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 8
US-08-324-799-1
; Sequence 1, Application US/08324799
; Patent No. 5698195
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter E.
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott A.
; TITLE OF INVENTION: ANTI-TNF ANTIBODIES AND PEPTIDES
; TITLE OF INVENTION: OF HUMAN TUMOR NECROSIS FACTOR
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
; STREET: Two Militia Drive
; CITY: Lexington
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02173
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
```

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/324,799  
FILING DATE: 18-OCT-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,093  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,102  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,861  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/013,413  
FILING DATE: 02-FEB-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/010,406  
FILING DATE: 29-JAN-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/943,852  
FILING DATE: 11-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/853,606  
FILING DATE: 18-MAR-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/670,827  
FILING DATE: 18-MAR-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Brook, David E.  
REGISTRATION NUMBER: 22,592  
REFERENCE/DOCKET NUMBER: NYU93-01M4  
TELEPHONE: (617) 861-6240  
TELEFAX: (617) 861-9540  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-324-799-1

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTSPDMPVAHVAVNPQAEGQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTSPDMPVAHVAVNPQAEGQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
  
QY 61 QVLFSGGCGPSTHVLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPGEGANPWYPIYL 120  
DB 61 QVLFKGCGPSTHVLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPGEGANPWYPIYL 120  
  
QY 121 GGVFQLEKGDRLSAEINRPDYLDPFAESGGVYFGIALL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDPFAESGGVYFGIALL 157

## RESULT 9

US-08-538-875-1  
Sequence 1, Application US/08538875  
Patent No. 5773582  
GENERAL INFORMATION:  
APPLICANT: Shin, Hang-Cheol  
APPLICANT: Lee, Inkyung  
APPLICANT: Kang, Sungzong  
TITLE OF INVENTION: TUMOR NECROSIS FACTOR MUTEINS  
NUMBER OF SEQUENCES: 73  
CORRESPONDENCE ADDRESS:

ADDRESSEE: Shin, Hang-Cheol  
STREET: Jukong Gocheung Apt. 1014-806, Haan-dong  
CITY: Kwangmyung-shi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 423-060  
ADDRESSEE: Shin, Nam-Kyu  
STREET: #181-404 Sadang-4-dong, Dongjak-ku  
CITY: Seoul  
STATE:  
COUNTRY: Republic of Korea  
ZIP: 156-094  
ADDRESSEE: Lee, Inkyung  
STREET: 11/2, #302-39 Juan-4-dong, Nam-ku  
CITY: Incheon  
STATE:  
COUNTRY: Republic of Korea  
ZIP: 402-204  
ADDRESSEE: Kang, Sungzong  
STREET: #84-4 Daeshin-dong, Seodaemun-ku  
CITY: Seoul  
STATE:  
COUNTRY: Republic of Korea  
ZIP: 120-160  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette 3.5inch 2.0Mb storage  
COMPUTER: IBM PC/AT  
OPERATING SYSTEM: MS-DOS  
SOFTWARE: WordPerfect 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/538,875  
FILING DATE:  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/08/193,336  
FILING DATE:  
APPLICATION NUMBER: KR 93-1751  
FILING DATE: 9-FEB-1993  
ATTORNEY/AGENT INFORMATION:  
NAME:  
REGISTRATION NUMBER:  
REFERENCE/DOCKET NUMBER:  
TELEPHONE:  
TELEFAX:  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-538-875-1  
  
Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTSPDMPVAHVAVNPQAEGQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTSPDMPVAHVAVNPQAEGQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
  
QY 61 QVLFSGGCGPSTHVLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPGEGANPWYPIYL 120  
DB 61 QVLFKGCGPSTHVLLTHTTSRIASVYQTPVNLLSAIRSPCQRETPGEGANPWYPIYL 120  
  
QY 121 GGVFQLEKGDRLSAEINRPDYLDPFAESGGVYFGIALL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDPFAESGGVYFGIALL 157  
  
RESULT 10  
US-08-394-600B-17

; Sequence 17, Application US/08394600B  
; Patent No. 5843693  
; GENERAL INFORMATION:  
; APPLICANT: Halenbeck, Robert F.  
; APPLICANT: Jewell, David A.  
; APPLICANT: Koths, Kirston E.  
; APPLICANT: Kriegler, Michael  
; APPLICANT: Perez, Carl  
; TITLE OF INVENTION: Compositions for the Inhibition of  
; TITLE OF INVENTION: Protein Hormone Formation and Uses Thereof  
; NUMBER OF SEQUENCES: 28  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: McAndrews, Held & Malloy, Ltd.  
; STREET: 500 West Madison Street; 34th Floor  
; CITY: Chicago  
; STATE: Illinois  
; COUNTRY: United States of America  
; ZIP: 60661  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/394,600B  
; FILING DATE: 02/27/95  
; CLASSIFICATION: 435  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Donald J. Pochopien  
; REGISTRATION NUMBER: 32,167  
; REFERENCE/DOCKET NUMBER: 820,005/11850US05  
; TELEPHONE: 312/707-8889  
; TELEFAX: 312/707-9155  
; TELEX:  
; INFORMATION FOR SEQ ID NO: 17:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 157 amino acids  
; TYPE: amino acid  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
US-08-394-600B-17

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTSPDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVWPSEGLYIYS 60  
Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVWPSEGLYIYS 60  
QY 61 QVLFSGQGPCSTHLLTHTISRIASVYQTPVNLLSAIRSPCQRETPEGAEANPWTEPIYL 120  
Db 61 QVLFKGGQCPSTHLLTHTISRIASVYQTPVNLLSAIRSPCQRETPEGAEANPWTEPIYL 120  
QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 11  
US-08-500-860A-35  
; Sequence 35, Application US/08500860A  
; Patent No. 5891679  
; GENERAL INFORMATION:  
; APPLICANT: LUCAS, RUDOLPH  
; APPLICANT: DE BARTSELIER, PATRICK  
; APPLICANT: FRANSSEN, LUCIE  
; APPLICANT: SABLOW, ERWIN  
; TITLE OF INVENTION: TNF-MUTEINS, A PROCESS FOR PREPARING THEM AND  
; TITLE OF INVENTION: THEIR USE AS ACTIVE SUBSTANCES IN PHARMACEUTICAL COMPOSITIONS  
; NUMBER OF SEQUENCES: 36  
; CORRESPONDENCE ADDRESS:

; ADDRESSEE: NIXON & VANDERHUYE P.C.  
; STREET: 1100 NORTH GLEBE ROAD  
; CITY: ARLINGTON  
; STATE: VIRGINIA  
; COUNTRY: U.S.A.  
; ZIP: 22201-4714  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/500,860A  
; FILING DATE:  
; CLASSIFICATION: 435  
; ATTORNEY/AGENT INFORMATION:  
; NAME: BYRNE, THOMAS E.  
; REGISTRATION NUMBER: 32,205  
; REFERENCE/DOCKET NUMBER: 1487-8  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (703)816-4000  
; TELEFAX: (703)816-4100  
; TELEX: 200797 NIXN UR  
; INFORMATION FOR SEQ ID NO: 35:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 157 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
US-08-500-860A-35  
Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTSPDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVWPSEGLYIYS 60  
Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVWPSEGLYIYS 60  
QY 61 QVLFSGQGPCSTHLLTHTISRIASVYQTPVNLLSAIRSPCQRETPEGAEANPWTEPIYL 120  
Db 61 QVLFKGGQCPSTHLLTHTISRIASVYQTPVNLLSAIRSPCQRETPEGAEANPWTEPIYL 120  
QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
RESULT 12  
US-08-192-861A-1  
; Sequence 1, Application US/08192861A  
; Patent No. 5919452  
; GENERAL INFORMATION:  
; APPLICANT: Le, Junming  
; APPLICANT: Vilcek, Jan  
; APPLICANT: Daddona, Peter E.  
; APPLICANT: Ghayeb, John  
; APPLICANT: Knight, David M.  
; APPLICANT: Siegel, Scott A.  
; TITLE OF INVENTION: METHODS OF TREATING TNF'-MEDIATED DISEASE USING  
; TITLE OF INVENTION: CHIMERIC ANTI-TNF ANTIBODIES (As Amended)  
; NUMBER OF SEQUENCES: 19  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.  
; STREET: Two Militia Drive  
; CITY: Lexington  
; STATE: Massachusetts  
; COUNTRY: USA  
; ZIP: 02173  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/192,861A  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/013,413  
FILING DATE: 02-FEB-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/010,406  
FILING DATE: 29-JAN-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/943,852  
FILING DATE: 11-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/853,606  
FILING DATE: 18-MAR-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/670,827  
FILING DATE: 18-MAR-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Brook, David E.  
REGISTRATION NUMBER: 22,592  
REFERENCE/DOCKET NUMBER: NYU93-01M2  
TELEPHONE: (781) 861-6240  
TELEFAX: (781) 861-9540  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-192-861A-1

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDKPKVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
QY 61 QVLFSGQGPCSTHLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAEANPWYPIYL 120  
DB 61 QVLFSGQGPCSTHLLTHTISRIAVSYQTKVNLLSAIPCORETPEGAEANPWYPIYL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 13  
US-08-600-783-5  
Sequence 5, Application US/08600783  
Patent No. 5962267  
GENERAL INFORMATION:  
APPLICANT: SHIN, Hang Cheol  
APPLICANT: CHANG, Seung Gu  
APPLICANT: KIM, Dae Young  
APPLICANT: KIM, Chong Suh  
TITLE OF INVENTION: Proinsulin Derivative and Process  
NUMBER OF SEQUENCES: 36  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: SHIN, Hang Cheol  
STREET: Ssangma-Hanshin Apt. 102-1206,  
CITY: Kwangmyung-shi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 423-030  
ADDRESSEE: CHANG, Seung Gu

STREET: Hyundai Apt. 71-203, Apkujong-dong,  
CITY: Kangnam-ku  
STATE: Seoul  
COUNTRY: Republic of Korea  
ZIP: 135-110  
ADDRESSEE: KIM, Dae Young  
STREET: Sosa Jukong Apt. 108-202, Sosa Bon-dong,  
CITY: Sosa-ku  
CITY: Bucheon-shi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 422-230  
ADDRESSEE: KIM, Chong Suh  
STREET: Garden Heights Apt. 202-801, #100,  
CITY: Hwangkeum-dong, Sosaung-ku  
STATE: Taegu  
COUNTRY: Republic of Korea  
ZIP: 706-040  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy Disk, 3.5 inch, 1.44MB storage  
COMPUTER: IBM PC/AT  
OPERATING SYSTEM: MS-DOS  
SOFTWARE: Word Perfect 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/600,783  
FILING DATE:  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: KR 95-2751  
FILING DATE: 15-FEB-1995  
ATTORNEY/AGENT INFORMATION:  
NAME: Shahan Ielam  
REGISTRATION NUMBER: 32,507  
REFERENCE/DOCKET NUMBER:  
TELEPHONE: (212) 278-1000  
TELEFAX: (212) 953-7249  
INFORMATION FOR SEQ ID NO: 5:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-600-783-5

Query Match 95.7%; Score 779; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 9.5e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDKPKVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
QY 61 QVLFSGQGPCSTHLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAEANPWYPIYL 120  
DB 61 QVLFSGQGPCSTHLLTHTISRIAVSYQTKVNLLSAIPCORETPEGAEANPWYPIYL 120  
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 14  
US-08-584-031-13  
Sequence 13, Application US/08584031A  
Patent No. 6030945  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi J.  
TITLE OF INVENTION: APO-2 LIGAND  
FILE REFERENCE: 11669.22US03

```

; CURRENT APPLICATION NUMBER: US/08/584,031A
;
; CURRENT FILING DATE: 1996-01-09
;
; NUMBER OF SEQ ID NOS: 17
;
; SOFTWARE: Patentin Ver. 2.0
;
; SEQ ID NO 13
;
; LENGTH: 157
;
; TYPE: prt
;
; ORGANISM: Homo sapiens
;
; US-08-584-031-13

```

Query Match	95.7%	Score 779;	DB 2;	Length 157;
Best Local Similarity	96.2%;	Pred. No. 9.5e-74;		
Matches 151;	Conservative 1;	Mismatches 5;	Indels 0;	Gaps 0;
Qy	1	VRSSRTPSDMPVAHVAVNPQAEQQLWLNRRANALLANGVELRDNLQVWVPEGLYLIYS	60	
Db	1	VRSSRTPSDKPAHVAVNPQAEQQLWLNRRANALLANGVELRDNLQVWVPEGLYLIYS	60	
Qy	61	QVLFSGGCGSPSTHVLTTHTTISRIVASYQTPTVNLLSAIRSPCQRETPEGAEANPWVEPIYL	120	
Db	61	QVLFKGGCGSPSTHVLTTHTTISRIVASYQTKVNLLSAISKPCQRETPEGAEAKPWVEPIYL	120	
Qy	121	GGVFLQFPGDRLSAEINRPDYLDFAESGVYFGIIAL	157	
Db	121	GGVFLQFPGDRLSAEINRPDYLDFAESGVYFGIIAL	157	

RESULT 15  
US-08-714-960B-1  
Sequence 1, Application US/08714960B  
Patent No. 6121237  
GENERAL INFORMATION:  
APPLICANT: RATHJEN, Deborah A  
APPLICANT: FERRANTE, Antonio  
TITLE OF INVENTION: Neutrophil Stimulating Peptides  
NUMBER OF SEQUENCES: 19  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: BANNER & WITCOFF, LTD.  
STREET: 10 S. Wacker Drive, Suite 3000  
CITY: Chicago  
STATE: Illinois  
COUNTRY: USA  
ZIP: 60606  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: IBM compatible PC/MS-DOS  
SOFTWARE: WordPerfect version 6.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/714,960B  
FILING DATE: 17-SEP-1996  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: AU PJ9065  
FILING DATE: 12-MAR-1990  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: PCT/AU91/00086  
FILING DATE: 12-MAR-1991  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/930,415  
FILING DATE: 09-NOV-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/107,235  
FILING DATE: 16-AUG-1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Resis, Robert H.  
REGISTRATION NUMBER: 32,168  
REFERENCE/DOCKET NUMBER: 92,622-B  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (312) 715-1000  
TELEFAX: (312) 715-1234  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:



GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:23 ; Search time 45.5 Seconds  
(without alignments)  
1441.741 Million cell

**Title:** US-10-668-178-13

Perfect score: 814

PERFECT SCORE: 0.14  
Sequence: 1 VRSSSRTPSDMPVAHVVANP.....RPDYLDFAESGVFGIIAL 157

Scoring table: BLOSUM62

scoring cable: BROSUN2  
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs. 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0

Minimum	DB	req	length:	0
Maximum	DB	req	length:	2000000000

Post-processing: Minimum Match 0%

Post-processing: Minimum Match 0%  
Maximum Match 100%

Maximum MACCH 100%  
Listing first 45 summaries

Database : Published Applications AA Main:\*

```

database :
published Applications "M. Mann":
1: /cgn2_6/ptodata1/pubpaa/US07_PUBCOMB.pcp:*
2: /cgn2_6/ptodata1/pubpaa/US08_PUBCOMB.pcp:*
3: /cgn2_6/ptodata1/pubpaa/US09_PUBCOMB.pcp:*
4: /cgn2_6/ptodata1/pubpaa/US10A_PUBCOMB.pcp:*
5: /cgn2_6/ptodata1/pubpaa/US10B_PUBCOMB.pcp:*
6: /cgn2_6/ptodata1/pubpaa/US11_PUBCOMB.pcp:*

```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query		Length	DB	ID	Description
		Match	%				
1	814	100.0	157	4	US-10-354-985-3	Sequence 3, Appli	
2	814	100.0	157	5	US-10-668-178-3	Sequence 3, Appli	
3	814	100.0	157	5	US-10-668-178-13	Sequence 13, Appl	
4	779	95.7	157	3	US-09-756-301A-1	Sequence 1, Appli	
5	779	95.7	157	3	US-09-927-703-1	Sequence 1, Appli	
6	779	95.7	157	3	US-09-854-280-19	Sequence 19, Appl	
7	779	95.7	157	3	US-09-934-465-13	Sequence 13, Appl	
8	779	95.7	157	3	US-09-766-535A-1	Sequence 1, Appli	
9	779	95.7	157	3	US-09-854-208-19	Sequence 19, Appl	
10	779	95.7	157	3	US-09-756-161A-1	Sequence 1, Appli	
11	779	95.7	157	3	US-09-903-327A-7	Sequence 7, Appli	
12	779	95.7	157	3	US-09-756-398B-1	Sequence 1, Appli	
13	779	95.7	157	3	US-09-897-724-1	Sequence 1, Appli	
14	779	95.7	157	4	US-10-010-229-1	Sequence 1, Appli	
15	779	95.7	157	4	US-10-043-450-1	Sequence 1, Appli	
16	779	95.7	157	4	US-10-044-534-1	Sequence 1, Appli	
17	779	95.7	157	4	US-10-099-007A-1	Sequence 1, Appli	
18	779	95.7	157	4	US-10-043-432-1	Sequence 1, Appli	
19	779	95.7	157	4	US-10-119-621-1	Sequence 1, Appli	
20	779	95.7	157	4	US-10-208-145-1	Sequence 1, Appli	
21	779	95.7	157	4	US-10-262-630-9	Sequence 9, Appli	
22	779	95.7	157	4	US-10-305-347A-9	Sequence 9, Appli	
23	779	95.7	157	4	US-10-198-845-1	Sequence 1, Appli	
24	779	95.7	157	4	US-10-227-488-1	Sequence 1, Appli	
25	779	95.7	157	4	US-10-170-812-7	Sequence 7, Appli	
26	779	95.7	157	4	US-10-187-121-1	Sequence 1, Appli	
27	779	95.7	157	4	US-10-176-460-1	Sequence 1, Appli	

## ALIGNMENTS

## RESULT 1

```

US-10-354-985-3
; Sequence 3, Application US/10354985
; Publication No. US20040001802A1
; GENERAL INFORMATION:
; APPLICANT: MAYUMI, Tandanori et al.
; TITLE OF INVENTION: PHYSIOLOGICALLY ACTIVE COMPOUNDS
; FILE REFERENCE: MAYUMI=2
; CURRENT APPLICATION NUMBER: US/10/354,985
; CURRENT FILING DATE: 2003-01-31
; PRIOR APPLICATION NUMBER: JP 083509/2002
; PRIOR FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: JP 1185387/2002
; PRIOR FILING DATE: 2002-06-26
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 3
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial
; FEATURES:
; OTHER INFORMATION: Variant protein of human tu
US-10-354-985-3

```

	Query Match	100.0%;	Score 814;	DB 4;	Length 157;
	Best Local Similarity	100.0%;	Pred. No. 2.7e-80;		
	Matches 157;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;
Qy	1	VRSSRTPSPMPVAHVVANPQASGQQLWNRNALLANGVLRDNLQVVPSEGLYLIYS	60		
Db	1	VRSSRTPSPMPVAHVVANPQASGQQLWNRNALLANGVLRDNLQVVPSEGLYLIYS	60		
Qy	61	QVLPSGGQCSFTHVLLTHTISRAVSYQTVPVLLSAIRSPQRETPEGANPMWPEIYL	120		
Db	61	QVLPSGGQCSFTHVLLTHTISRAVSYQTVPVLLSAIRSPQRETPEGANPMWPEIYL	120		
Qy	121	GGVFQLSPGRLSAEINRPDYLFPAESGVYFGIIAL	157		
Db	121	GGVFQLSPGRLSAEINRPDYLFPAESGVYFGIIAL	157		

## RESULT 2

; US-10-668-178-3  
 ; Sequence 3, Application US/10668178  
 ; Publication No. US20050013795A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO  
 ; APPLICANT: MAYUMI, Tadanori  
 ; APPLICANT: TSUTSUMI, Yasuo  
 ; APPLICANT: NAKAGAWA, Shinsaku

```
; APPLICANT: IKEGAMI, Hakuo
; TITLE OF INVENTION: Biologically-active conjugate
; FILE REFERENCE: MAYUMIZA
; CURRENT APPLICATION NUMBER: US/10/668,178
; CURRENT FILING DATE: 2003-09-24
; PRIOR APPLICATION NUMBER: JP 83509/2002
; PRIOR FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: JP 185387/2002
; PRIOR FILING DATE: 2002-06-26
; NUMBER OF SEQ ID NOS: 16
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 3
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)
US-10-668-178-3

Query Match      100.0%; Score 814; DB 5; Length 157;
Best Local Similarity 100.0%; Pred. No. 2.7e-80;
Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||
Db 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIYS 60

QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
   |||
Db 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 3
US-10-668-178-13
; Sequence 13, Application US/10668178
; Publication NO. US20050013795A1
; GENERAL INFORMATION:
; APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
; APPLICANT: TADANORI
; APPLICANT: TSUTSUMI, Yasuo
; APPLICANT: NAKAGAWA, Shinbaku
; APPLICANT: IKEGAMI, Hakuo
; TITLE OF INVENTION: Biologically-active conjugate
; FILE REFERENCE: MAYUMIZA
; CURRENT APPLICATION NUMBER: US/10/668,178
; CURRENT FILING DATE: 2003-09-24
; PRIOR APPLICATION NUMBER: JP 83509/2002
; PRIOR FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: JP 185387/2002
; PRIOR FILING DATE: 2002-06-26
; NUMBER OF SEQ ID NOS: 16
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 13
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Synthetic Construct
US-10-668-178-13

Query Match      100.0%; Score 814; DB 5; Length 157;
Best Local Similarity 100.0%; Pred. No. 2.7e-80;
Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||
Db 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIYS 60

QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
   |||
Db 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
```

```
Db 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
   |||
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 4
US-09-756-301A-1
; Sequence 1, Application US/09756301A
; Patent No. US20010027249A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junning
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-008
; CURRENT APPLICATION NUMBER: US/09/756.301A
; CURRENT FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-756-301A-1

Query Match      95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||
Db 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIYS 60

QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120
   |||
Db 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPIYL 120

QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||
Db 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 5
US-09-927-703-1
```

; Sequence 1, Application US/09927703  
; Patent No. US2002022720A1

; GENERAL INFORMATION:

; APPLICANT: Le, Junming  
; APPLICANT: Vilcek, Jan  
; APPLICANT: Daddona, Peter  
; APPLICANT: Ghayeb, John  
; APPLICANT: Knight, David M.  
; APPLICANT: Siegel, Scott  
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of Human Tumor Necrosis Factor

; FILE REFERENCE: 0975.1005-013

; CURRENT APPLICATION NUMBER: US/09/927,703

; CURRENT FILING DATE: 2001-08-10

; PRIOR APPLICATION NUMBER: U.S. 09/756,398

; PRIOR FILING DATE: 2001-01-08

; PRIOR APPLICATION NUMBER: U.S. 09/133,119

; PRIOR FILING DATE: 1998-08-12

; PRIOR APPLICATION NUMBER: U.S. 08/570,674

; PRIOR FILING DATE: 1995-12-11

; PRIOR APPLICATION NUMBER: U.S. 08/324,799

; PRIOR FILING DATE: 1994-10-18

; PRIOR APPLICATION NUMBER: U.S. 08/192,102

; PRIOR FILING DATE: 1994-02-04

; PRIOR APPLICATION NUMBER: U.S. 08/192,861

; PRIOR FILING DATE: 1994-02-04

; PRIOR APPLICATION NUMBER: U.S. 08/192,093

; PRIOR FILING DATE: 1994-02-04

; PRIOR APPLICATION NUMBER: U.S. 08/010,406

; PRIOR FILING DATE: 1993-01-29

; PRIOR APPLICATION NUMBER: U.S. 08/013,413

; PRIOR FILING DATE: 1993-02-02

; PRIOR APPLICATION NUMBER: U.S. 07/943,852

; PRIOR FILING DATE: 1992-09-11

; PRIOR APPLICATION NUMBER: U.S. 07/853,606

; PRIOR FILING DATE: 1992-03-18

; PRIOR APPLICATION NUMBER: U.S. 07/670,827

; PRIOR FILING DATE: 1991-03-18

; NUMBER OF SEQ ID NOS: 19

; SOFTWARE: FastSeq for Windows Version 4.0

; SEQ ID NO 1

; LENGTH: 157

; TYPE: PRT

; ORGANISM: Homo sapiens

US-09-927-703-1

Query Match 95.7%; Score 779; DB 3; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.7e-76;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYIYS 60

DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYIYS 60

QY 61 QVLFSGGCGPSTHVLTTHTISRIASVYQTPVNLSSAIRSPCORETPEGAEANPWYEPIYL 120

DB 61 QVLFKGCGCPSTHVLTTHTISRIASVYQTKVNLSSAIRSPCORETPEGAEANPWYEPIYL 120

QY 121 GGVFQLEPGDRLSASINRPDYLDFAESGQVYFGIIAL 157

DB 121 GGVFQLEKGDRLSASINRPDYLDFAESGQVYFGIIAL 157

RESULT 6

US-09-854-280-19

; Sequence 19, Application US/09854280

; Patent No. US20020052027A1

; GENERAL INFORMATION:

; APPLICANT: Chen, Jian

; APPLICANT: Filvaroff, Ellen

; APPLICANT: Goddard, Audrey

; APPLICANT: Gurney, Austin

; APPLICANT: Li, Hanzhong

; APPLICANT: Wood, William I.

; TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES THEREOF

; FILE REFERENCE: P1381R1C2

; CURRENT APPLICATION NUMBER: US/09/854,280

; CURRENT FILING DATE: 2001-05-10

; PRIOR APPLICATION NUMBER: US 09/311,832

; PRIOR FILING DATE: 1999-05-14

; PRIOR APPLICATION NUMBER: US 60/085,579

; PRIOR FILING DATE: 1998-05-15

; PRIOR APPLICATION NUMBER: US 60/113,621

; PRIOR FILING DATE: 1998-12-23

; NUMBER OF SEQ ID NOS: 26

; SEQ ID NO 19

; LENGTH: 157

; TYPE: PRT

; ORGANISM: Homo sapiens

US-09-854-280-19

Query Match 95.7%; Score 779; DB 3; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.7e-76;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYIYS 60

DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYIYS 60

QY 61 QVLFSGGCGPSTHVLTTHTISRIASVYQTPVNLSSAIRSPCORETPEGAEANPWYEPIYL 120

DB 61 QVLFKGCGCPSTHVLTTHTISRIASVYQTKVNLSSAIRSPCORETPEGAEANPWYEPIYL 120

QY 121 GGVFQLEPGDRLSASINRPDYLDFAESGQVYFGIIAL 157

DB 121 GGVFQLEKGDRLSASINRPDYLDFAESGQVYFGIIAL 157

RESULT 7

US-09-934-465-13

; Sequence 13, Application US/09934465

; Patent No. US20020102233A1

; GENERAL INFORMATION:

; APPLICANT: Ashkenazi, Avi J.

; TITLE OF INVENTION: APO-2 LIGAND

; FILE REFERENCE: 11669.22US03

; CURRENT APPLICATION NUMBER: US/09/934,465

; CURRENT FILING DATE: 2001-08-21

; PRIOR APPLICATION NUMBER: 08/584,031

; PRIOR FILING DATE: 1996-01-09

; NUMBER OF SEQ ID NOS: 17

; SOFTWARE: PatentIn Ver. 2.0

; SEQ ID NO 13

; LENGTH: 157

; TYPE: PRT

; ORGANISM: Homo sapiens

US-09-934-465-13

Query Match 95.7%; Score 779; DB 3; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.7e-76;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYIYS 60

DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYIYS 60

QY 61 QVLFSGGCGPSTHVLTTHTISRIASVYQTPVNLSSAIRSPCORETPEGAEANPWYEPIYL 120

DB 61 QVLFKGCGCPSTHVLTTHTISRIASVYQTKVNLSSAIRSPCORETPEGAEANPWYEPIYL 120

QY 121 GGVFQLEPGDRLSASINRPDYLDFAESGQVYFGIIAL 157

DB 121 GGVFQLEKGDRLSASINRPDYLDFAESGQVYFGIIAL 157

RESULT 8

```
US-09-766-535A-1
; Sequence 1, Application US/09766535A
; Patent No. US20020106372A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Chrayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; FILE REFERENCE: 0975,1005-010
; CURRENT APPLICATION NUMBER: US/09/766,535A
; CURRENT FILING DATE: 2001-01-18
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-766-535A-1

Query Match          95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKPVAVHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGPCSTHLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAENPWTPEIYL 120
Db 61 QVLFKGGQCPSTHLLTHTISRIAVSYQTKVNLLSAIRSPCORETPEGAENPWTPEIYL 120

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 10
US-09-756-161A-1
; Sequence 1, Application US/09756161A
; Patent No. US2002013207A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Chrayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; FILE REFERENCE: 0975,1005-007
; CURRENT APPLICATION NUMBER: US/09/756,161A
; CURRENT FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-766-535A-1

Query Match          95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKPVAVHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60

Qy 61 QVLFSGQGPCSTHLLTHTISRIAVSYQTPVNLLSAIRSPCORETPEGAENPWTPEIYL 120
Db 61 QVLFKGGQCPSTHLLTHTISRIAVSYQTKVNLLSAIRSPCORETPEGAENPWTPEIYL 120

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 9
US-09-854-208-19
; Sequence 19, Application US/09854208
; Patent No. US20020106743A1
; GENERAL INFORMATION:
; APPLICANT: Chen, Jian
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Goddard, Audrey
; APPLICANT: Gurney, Austin
; APPLICANT: Li, Hanzhong
; APPLICANT: Wood, William I.
```

; NUMBER OF SEQ ID NOS: 19		; Publication No. US20030017584A1	
; SOFTWARE: FastSeq for Windows Version 4.0		; GENERAL INFORMATION:	
; SEQ ID NO 1		; APPLICANT: Le, Junming	
; LENGTH: 157		; APPLICANT: Vilcek, Jan	
; TYPE: PRT		; APPLICANT: Daddona, Peter	
; ORGANISM: Homo sapiens		; APPLICANT: Grayeb, John	
US-09-756-161A-1		; APPLICANT: Knight, David M.	
Query Match		; APPLICANT: Siegel, Scott	
Best Local Similarity 95.7%; Score 779; DB 3; Length 157;		; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of	
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;		; FILE REFERENCE: 0975.1005-006	
QY 1 VRSSRTSPDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60		; CURRENT APPLICATION NUMBER: US/09/756,398B	
Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60		; CURRENT FILING DATE: 2001-01-08	
QY 61 QVLFSGQCGPSTHVLTHTRISAVSYQTPVNLSSAIRSPCORETPEGAEANPWYBPIYL 120		; PRIOR APPLICATION NUMBER: U.S. 09/133,119	
Db 61 QVLFSGQCGPSTHVLTHTRISAVSYQTPVNLSSAIRSPCORETPEGAEANPWYBPIYL 120		; PRIOR FILING DATE: 1998-08-12	
QY 121 GGVFQLEKGDRLSAEINRPDYLDFABSGQVYFGIALL 157		; PRIOR APPLICATION NUMBER: U.S. 08/570,674	
Db 121 GGVFQLEKGDRLSAEINRPDYLDFABSGQVYFGIALL 157		; PRIOR FILING DATE: 1995-12-11	
RESULT 11		; PRIOR APPLICATION NUMBER: U.S. 08/324,799	
US-09-903-327A-7		; PRIOR FILING DATE: 1994-10-18	
; Sequence 7, Application US/09903327A		; PRIOR APPLICATION NUMBER: U.S. 08/192,102	
; Patent No. US2002016433A1		; PRIOR FILING DATE: 1994-02-04	
; GENERAL INFORMATION:		; PRIOR APPLICATION NUMBER: U.S. 08/192,861	
; APPLICANT: Nemerow, Glen R.		; PRIOR FILING DATE: 1994-02-04	
; TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET		; PRIOR APPLICATION NUMBER: U.S. 08/010,406	
; TITLE OF INVENTION: DELIVERY		; PRIOR FILING DATE: 1993-01-29	
; FILE REFERENCE: 22908-1228		; PRIOR APPLICATION NUMBER: U.S. 08/013,413	
; CURRENT FILING DATE: 2001-07-10		; PRIOR FILING DATE: 1993-02-02	
; PRIOR APPLICATION NUMBER: 09/613,017		; PRIOR APPLICATION NUMBER: U.S. 07/943,852	
; PRIOR FILING DATE: 2000-07-10		; PRIOR FILING DATE: 1992-09-11	
; SOFTWARE: FastSeq for Windows Version 4.0		; PRIOR APPLICATION NUMBER: U.S. 07/853,606	
; SEQ ID NO 7		; PRIOR FILING DATE: 1992-03-18	
; LENGTH: 157		; PRIOR FILING DATE: 1991-03-18	
; TYPE: PRT		; NUMBER OF SEQ ID NOS: 19	
; ORGANISM: Human		; SOFTWARE: FastSeq for Windows Version 4.0	
; FEATURE:		; SEQ ID NO 1	
; NAME/KEY: PEPTIDE		; LENGTH: 157	
; LOCATION: (0)...(0)		; TYPE: PRT	
; OTHER INFORMATION: Tumor necrosis factor-alpha (TNF alpha, mature		; ORGANISM: Homo sapiens	
; OTHER INFORMATION: peptide)		US-09-756-398B-1	
US-09-903-327A-7		Query Match	
		Best Local Similarity 95.7%; Score 779; DB 3; Length 157;	
		Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;	
QY 1 VRSSRTSPDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60		QY 1 VRSSRTSPDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60	
Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60		Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60	
QY 61 QVLFSGQCGPSTHVLTHTRISAVSYQTPVNLSSAIRSPCORETPEGAEANPWYBPIYL 120		QY 61 QVLFSGQCGPSTHVLTHTRISAVSYQTPVNLSSAIRSPCORETPEGAEANPWYBPIYL 120	
Db 61 QVLFSGQCGPSTHVLTHTRISAVSYQTPVNLSSAIRSPCORETPEGAEANPWYBPIYL 120		Db 61 QVLFSGQCGPSTHVLTHTRISAVSYQTPVNLSSAIRSPCORETPEGAEANPWYBPIYL 120	
QY 121 GGVFQLEKGDRLSAEINRPDYLDFABSGQVYFGIALL 157		QY 121 GGVFQLEKGDRLSAEINRPDYLDFABSGQVYFGIALL 157	
Db 121 GGVFQLEKGDRLSAEINRPDYLDFABSGQVYFGIALL 157		Db 121 GGVFQLEKGDRLSAEINRPDYLDFABSGQVYFGIALL 157	
RESULT 12		RESULT 13	
US-09-756-398B-1		US-09-897-724-1	
; Sequence 1, Application US/09756398B		; Sequence 1, Application US/09897724	
		; Publication No. US20030175837A1	
		; GENERAL INFORMATION:	
		; APPLICANT: Le, Junming	
		; APPLICANT: Vilcek, Jan	
		; APPLICANT: Daddona, Peter	
		; APPLICANT: Grayeb, John	
		; APPLICANT: Knight, David M.	
		; APPLICANT: Siegel, Scott	
		; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of	
		; FILE REFERENCE: 0975.1005-006	
		; CURRENT APPLICATION NUMBER: US/09/756,398B	
		; CURRENT FILING DATE: 2001-01-08	
		; PRIOR APPLICATION NUMBER: U.S. 09/133,119	
		; PRIOR FILING DATE: 1998-08-12	
		; PRIOR APPLICATION NUMBER: U.S. 08/570,674	
		; PRIOR FILING DATE: 1995-12-11	
		; PRIOR APPLICATION NUMBER: U.S. 08/324,799	
		; PRIOR FILING DATE: 1994-10-18	
		; PRIOR APPLICATION NUMBER: U.S. 08/192,102	
		; PRIOR FILING DATE: 1994-02-04	
		; PRIOR APPLICATION NUMBER: U.S. 08/192,861	
		; PRIOR FILING DATE: 1994-02-04	
		; PRIOR APPLICATION NUMBER: U.S. 08/010,406	
		; PRIOR FILING DATE: 1993-01-29	
		; PRIOR APPLICATION NUMBER: U.S. 08/013,413	
		; PRIOR FILING DATE: 1993-02-02	
		; PRIOR APPLICATION NUMBER: U.S. 07/943,852	
		; PRIOR FILING DATE: 1992-09-11	
		; PRIOR APPLICATION NUMBER: U.S. 07/853,606	
		; PRIOR FILING DATE: 1992-03-18	
		; PRIOR FILING DATE: 1991-03-18	
		; NUMBER OF SEQ ID NOS: 19	
		; SOFTWARE: FastSeq for Windows Version 4.0	
		; SEQ ID NO 1	
		; LENGTH: 157	
		; TYPE: PRT	
		; ORGANISM: Homo sapiens	
		US-09-756-398B-1	
		Query Match	
		Best Local Similarity 96.2%; Pred. No. 1.7e-76;	
		Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;	
QY 1 VRSSRTSPDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60		QY 1 VRSSRTSPDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60	
Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60		Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60	
QY 61 QVLFSGQCGPSTHVLTHTRISAVSYQTPVNLSSAIRSPCORETPEGAEANPWYBPIYL 120		QY 61 QVLFSGQCGPSTHVLTHTRISAVSYQTPVNLSSAIRSPCORETPEGAEANPWYBPIYL 120	
Db 61 QVLFSGQCGPSTHVLTHTRISAVSYQTPVNLSSAIRSPCORETPEGAEANPWYBPIYL 120		Db 61 QVLFSGQCGPSTHVLTHTRISAVSYQTPVNLSSAIRSPCORETPEGAEANPWYBPIYL 120	
QY 121 GGVFQLEKGDRLSAEINRPDYLDFABSGQVYFGIALL 157		QY 121 GGVFQLEKGDRLSAEINRPDYLDFABSGQVYFGIALL 157	
Db 121 GGVFQLEKGDRLSAEINRPDYLDFABSGQVYFGIALL 157		Db 121 GGVFQLEKGDRLSAEINRPDYLDFABSGQVYFGIALL 157	

```
; FILE REFERENCE: 0975.1005-012
; CURRENT APPLICATION NUMBER: US/09/897,724
; CURRENT FILING DATE: 2001-07-02
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-897-724-1

Query Match          95.7%; Score 779; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRNQLVVPSEGLYLIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRNQLVVPSEGLYLIYS 60

QY 61 QVLFSGQCPSTHLLTHTISRIAVSYQTPVNLISAIKSPCORETPEGAEANPWYEPIYL 120
DB 61 QVLFKGQCPSTHLLTHTISRIAVSYQTKVNLISAIKSPCORETPEGAEAKPWYEPIYL 120

QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGVYFGIIAL 157
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGVYFGIIAL 157

RESULT 14
US-10-010-229-1
; Sequence 1, Application US/10010229
; Publication No. US20020114805A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; FILE REFERENCE: 0975.1005-013
; CURRENT APPLICATION NUMBER: US/10/010,229
; CURRENT FILING DATE: 2001-12-07
; PRIOR APPLICATION NUMBER: US/09/927,703
; PRIOR FILING DATE: 2001-08-10
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-010-229-1

Query Match          95.7%; Score 779; DB 4; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRNQLVVPSEGLYLIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRNQLVVPSEGLYLIYS 60

QY 61 QVLFSGQCPSTHLLTHTISRIAVSYQTPVNLISAIKSPCORETPEGAEANPWYEPIYL 120
DB 61 QVLFKGQCPSTHLLTHTISRIAVSYQTKVNLISAIKSPCORETPEGAEAKPWYEPIYL 120

QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGVYFGIIAL 157
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGVYFGIIAL 157

RESULT 15
US-10-043-450-1
; Sequence 1, Application US/10043450
; Publication No. US20020141996A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; FILE REFERENCE: 0975.1005-013
; CURRENT APPLICATION NUMBER: US/10/043,450
; CURRENT FILING DATE: 2002-01-10
; PRIOR APPLICATION NUMBER: 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-043-450-1

Query Match          95.7%; Score 779; DB 4; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.7e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRNQLVVPSEGLYLIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRNQLVVPSEGLYLIYS 60

QY 61 QVLFSGQCPSTHLLTHTISRIAVSYQTPVNLISAIKSPCORETPEGAEANPWYEPIYL 120
DB 61 QVLFKGQCPSTHLLTHTISRIAVSYQTKVNLISAIKSPCORETPEGAEAKPWYEPIYL 120

QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGVYFGIIAL 157
```

Tue May 9 11:18:19 2006

Db 121 GGVFQLEKGDRLSABINRPDYLLDFAESGOVYFGIIAL 157

Search completed: May 5, 2006, 11:30:23  
Job time : 46.5 secs

**THIS PAGE BLANK (USPTO)**





```
QY 61 QVLFSGQGCPSHVLTLTHTISRIAVSYQTQVNLLSAIRSPCORETPEGAEANPWTEPIYL 120
DB 61 QVLFKGQGCPSHVLTLTHTISRIAVSYQTQVNLLSAIRSPCORETPEGAEAKPWTEPIYL 120
QY 121 GGVFQLEPGDRLSAENRPDYLDFAESGQVYFGIIAL 157
DB 121 GGVFQLEKGRDLSAENRPDYLDFAESGQVYFGIIAL 157
```

## RESULT 2

```
US-11-053-750-1
; Sequence 1, Application US/11053750
; Publication No. US20050255104A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Chrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Scallion, Bernard
; TITLE OF INVENTION: Anti-TNF Receptor Fusion Proteins
; FILE REFERENCE: 0975.1005-045
; CURRENT APPLICATION NUMBER: US/11/053,750
; CURRENT FILING DATE: 2005-02-07
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 09/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-053-750-1
```

```
Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQGCPSHVLTLTHTISRIAVSYQTQVNLLSAIRSPCORETPEGAEANPWTEPIYL 120
DB 61 QVLFKGQGCPSHVLTLTHTISRIAVSYQTQVNLLSAIRSPCORETPEGAEAKPWTEPIYL 120
QY 121 GGVFQLEPGDRLSAENRPDYLDFAESGQVYFGIIAL 157
DB 121 GGVFQLEKGRDLSAENRPDYLDFAESGQVYFGIIAL 157
```

## RESULT 3

```
US-11-053-749-1
; Sequence 1, Application US/11053749
; Publication No. US20050260201A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Chrayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Scallion, Bernard
; TITLE OF INVENTION: Methods of Treating Rheumatoid Arthritis
; FILE REFERENCE: 0975.1005-040
; CURRENT APPLICATION NUMBER: US/11/053,749
; CURRENT FILING DATE: 2005-02-07
; PRIOR APPLICATION NUMBER: US/09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-053-749-1

Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQGCPSHVLTLTHTISRIAVSYQTQVNLLSAIRSPCORETPEGAEANPWTEPIYL 120
DB 61 QVLFKGQGCPSHVLTLTHTISRIAVSYQTQVNLLSAIRSPCORETPEGAEAKPWTEPIYL 120
QY 121 GGVFQLEPGDRLSAENRPDYLDFAESGQVYFGIIAL 157
DB 121 GGVFQLEKGRDLSAENRPDYLDFAESGQVYFGIIAL 157

RESULT 4
US-11-108-001-12
; Sequence 12, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John R.
; APPLICANT: Steed, Paul Michael
; APPLICANT: Zymkowski, Jonathan
; APPLICANT: Zymkowski, David Edmund
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
; RELATED DISORDERS
```

```
; FILE REFERENCE: A-68990-7
; CURRENT APPLICATION NUMBER: US/11/108,001
; PRIOR FILING DATE: 2005-04-14
; PRIOR APPLICATION NUMBER: US 10/963,994
; PRIOR FILING DATE: 2004-10-12
; PRIOR APPLICATION NUMBER: US 09/798,789
; PRIOR FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: US 09/945,150
; PRIOR FILING DATE: 2001-08-31
; PRIOR APPLICATION NUMBER: US 09/981,289
; PRIOR FILING DATE: 2001-10-15
; PRIOR APPLICATION NUMBER: US 10/262,630
; PRIOR FILING DATE: 2002-09-30
; PRIOR APPLICATION NUMBER: US 60/553,908
; PRIOR FILING DATE: 2004-03-17
; PRIOR APPLICATION NUMBER: US 60/510,430
; PRIOR FILING DATE: 2003-10-10
; PRIOR APPLICATION NUMBER: US 60/509,960
; PRIOR FILING DATE: 2003-10-09
; PRIOR APPLICATION NUMBER: US 60/528,275
; PRIOR FILING DATE: 2003-12-08
; PRIOR APPLICATION NUMBER: US 60/523,647
; PRIOR FILING DATE: 2003-11-20
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 12
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-108-001-12

Query Match          95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTSPDKPVAHVANPQAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGGCPSTHVLTHITISRIASVYQTPVNLISAIRSCQRETPGEGANPWYEPYIL 120
   |||||
Db 61 QVLFKGCGCPSTHVLTHITISRIASVYQTKVNLSAISKPCQRETPGEGAKPWYEPYIL 120
   |||||

QY 121 GGVFQLEPGDRLSAENRPDYLDPAESGQVYFGIALL 157
   |||||
Db 121 GGVFQLEKGRLSAENRPDYLDPAESGQVYFGIALL 157
   |||||

RESULT 5
US-11-170-753-1
; Sequence 1, Application US/11/10753
; Publication No. US20060013816A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Grayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods of Treating Psoriasis Using
; TITLE OF INVENTION: Human Anti-TNF Antibodies and Fragments
; FILE REFERENCE: 0975.1005-050
; CURRENT APPLICATION NUMBER: US/11/170,753
; CURRENT FILING DATE: 2005-06-29
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
```

```
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-170-753-1

Query Match          95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTSPDKPVAHVANPQAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGGCPSTHVLTHITISRIASVYQTPVNLISAIRSCQRETPGEGANPWYEPYIL 120
   |||||
Db 61 QVLFKGCGCPSTHVLTHITISRIASVYQTKVNLSAISKPCQRETPGEGAKPWYEPYIL 120
   |||||

QY 121 GGVFQLEPGDRLSAENRPDYLDPAESGQVYFGIALL 157
   |||||
Db 121 GGVFQLEKGRLSAENRPDYLDPAESGQVYFGIALL 157
   |||||

RESULT 6
US-11-179-359-1
; Sequence 1, Application US/11/179359
; Publication No. US20060018905A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Grayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods for Treating Systemic Lupus Erythematosus
; TITLE OF INVENTION: Using Anti-TNF Antibodies and Fragments Thereof
; FILE REFERENCE: 0975.1005-054
; CURRENT APPLICATION NUMBER: US/11/179,359
; CURRENT FILING DATE: 2005-07-12
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
```

```
; PRIOR FILING DATE: 1993-02-02
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-179-359-1

Query Match          95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120
   |||||
Db 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120
   |||||

QY 121 GGVFQLEPGDRLSASINRPDYLDFAESGQVYFGIIAL 157
   |||||
Db 121 GGVFQLEKGDRLSASINRPDYLDFAESGQVYFGIIAL 157
   |||||

RESULT 7
US-11-181-030-1
; Sequence 1, Application US/11181030
; Publication No. US20060018906A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghraieb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods for Treating Sarcoidosis Using
; FILE OF INVENTION: Anti-TNF Antibodies and Fragments Thereof
; FILE REFERENCE: 0975.1005-055
; CURRENT APPLICATION NUMBER: US/11/181,030
; CURRENT FILING DATE: 2005-07-13
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S.08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-181-030-1

Query Match          95.7%; Score 779; DB 11; Length 157;
```

```
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120
   |||||
Db 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120
   |||||

QY 121 GGVFQLEPGDRLSASINRPDYLDFAESGQVYFGIIAL 157
   |||||
Db 121 GGVFQLEKGDRLSASINRPDYLDFAESGQVYFGIIAL 157
   |||||

RESULT 8
US-11-182-033-1
; Sequence 1, Application US/11182033
; Publication No. US20060018907A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghraieb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Shealy, David
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of Human
; FILE OF INVENTION: Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-044
; CURRENT APPLICATION NUMBER: US/11/182,033
; CURRENT FILING DATE: 2005-07-14
; PRIOR APPLICATION NUMBER: US 10/637,759
; PRIOR FILING DATE: 2003-08-08
; PRIOR APPLICATION NUMBER: US 09/920,137
; PRIOR FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 60/236,826
; PRIOR FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: US 60/223,360
; PRIOR FILING DATE: 2000-08-07
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-182-033-1

Query Match          95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120
   |||||
Db 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLLSAIRSPCORETPEGAEANPWYEPIYL 120
   |||||

QY 121 GGVFQLEPGDRLSASINRPDYLDFAESGQVYFGIIAL 157
   |||||
Db 121 GGVFQLEKGDRLSASINRPDYLDFAESGQVYFGIIAL 157
   |||||

RESULT 9
US-11-195-589-1
; Sequence 1, Application US/11195589
```

```

; Publication No. US20060024310A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods of Treating TNFa-Mediated
; Tissue Injury Using Anti-TNF Antibodies and Peptides
; FILE REFERENCE: 0975.1005-042
; CURRENT APPLICATION NUMBER: US/11/195,589
; CURRENT FILING DATE: 2005-08-02
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: US 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: US 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: US 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: US 08/013,413
; PRIOR FILING DATE: 02-02-1993
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-11-195-589-1

Query Match 95.7%; Score 779; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db 1 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Qy 61 QVLFSGGCGPSTHVLTHTRISAVSYQTPVNLISAIRSPCORETPEGAEANPWYEPYIL 120
Db 61 QVLFSGGCGPSTHVLTHTRISAVSYQTPVNLISAIRSPCORETPEGAEANPWYEPYIL 120
Qy 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 10
US-11-082-544-4
; Sequence 4, Application US/11082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
; APPLICANT: Bermudes, G.
; APPLICANT: King, I.
; APPLICANT: Clairmont, C.
; APPLICANT: Lin, S.
; APPLICANT: Belcourt, M.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
; TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
; FILE REFERENCE: 8002-059
; CURRENT APPLICATION NUMBER: US/11/082,544

```

```

; CURRENT FILING DATE: 2005-03-17
; PRIOR APPLICATION NUMBER: US/09/645,415
; PRIOR FILING DATE: 2000-08-24
; PRIOR APPLICATION NUMBER: 60/157,581
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: 60/157,637
; PRIOR FILING DATE: 1999-10-04
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 4
; LENGTH: 158
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-11-082-544-4

Query Match 95.7%; Score 779; DB 11; Length 158;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTSPDMPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db 2 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 61
Qy 61 QVLFSGGCGPSTHVLTHTRISAVSYQTPVNLISAIRSPCORETPEGAEANPWYEPYIL 120
Db 62 QVLFSGGCGPSTHVLTHTRISAVSYQTPVNLISAIRSPCORETPEGAEANPWYEPYIL 121
Qy 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 122 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 158

RESULT 11
US-11-108-001-2
; Sequence 2, Application US/11108001
; Publication No. US20050246562A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John R.
; APPLICANT: Steed, Paul Michael
; APPLICANT: Zalevsky, Jonathan
; APPLICANT: Szymkowski, David Edmund
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
; FILE REFERENCE: A-68990-7
; CURRENT APPLICATION NUMBER: US/11/108,001
; CURRENT FILING DATE: 2005-04-14
; PRIOR APPLICATION NUMBER: US 10/963,994
; PRIOR FILING DATE: 2004-10-12
; PRIOR APPLICATION NUMBER: US 09/798,789
; PRIOR FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: US 09/945,150
; PRIOR FILING DATE: 2001-08-31
; PRIOR APPLICATION NUMBER: US 09/981,289
; PRIOR FILING DATE: 2001-10-15
; PRIOR APPLICATION NUMBER: US 10/262,630
; PRIOR FILING DATE: 2002-09-30
; PRIOR APPLICATION NUMBER: US 60/553,908
; PRIOR FILING DATE: 2004-03-17
; PRIOR APPLICATION NUMBER: US 60/510,430
; PRIOR FILING DATE: 2003-10-10
; PRIOR APPLICATION NUMBER: US 60/509,960
; PRIOR FILING DATE: 2003-10-09
; PRIOR APPLICATION NUMBER: US 60/528,275
; PRIOR FILING DATE: 2003-12-08
; PRIOR APPLICATION NUMBER: US 60/523,647
; PRIOR FILING DATE: 2003-11-20
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
; LENGTH: 164
; TYPE: PRT
; ORGANISM: Homo sapiens

```

US-11-108-001-2

Query Match 95.7%; Score 779; DB 11; Length 164;  
Best Local Similarity 96.2%; Pred. No. 1.4e-75;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
Db 8 VRSSRTSDKPKVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 67  
Qy 61 QVLFSGQGPCSTHLLTHTTISRIVSYQTPVNLLSAIRSPCQRETPEGAENPWYEPIYL 120  
Db 68 QVLFKGQGPCSTHLLTHTTISRIVSYQTKVNLLSAIRSPCQRETPEGAENPWYEPIYL 127  
Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
Db 128 GGVFQLEKGRDLSAEINRPDYLDFAESGVYFGIIAL 164

RESULT 12  
US-10-490-953-35  
; Sequence 35, Application US/10490953  
; Publication No. US20060088908A1  
; GENERAL INFORMATION:  
; APPLICANT: SKERA, ARNE  
; APPLICANT: SCHLEUBER, STEFFEN  
; TITLE OF INVENTION: MUTAINS OF HUMAN NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN AND  
; FILE REFERENCE: 029029-0104  
; CURRENT APPLICATION NUMBER: US/10/490,953  
; PRIOR FILING DATE: 2004-03-29  
; PRIOR APPLICATION NUMBER: PCT/EP02/10490  
; PRIOR FILING DATE: 2002-09-18  
; PRIOR APPLICATION NUMBER: PCT/EP02/04223  
; PRIOR FILING DATE: 2002-04-16  
; PRIOR APPLICATION NUMBER: PCT/EP01/11213  
; PRIOR FILING DATE: 2001-09-27  
; NUMBER OF SEQ ID NOS: 39  
; SOFTWARE: Patentin version 3.2  
; SEQ ID NO 35  
; LENGTH: 170  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: amino acid sequence  
; FEATURE:  
; NAME/KEY: CHAIN  
; LOCATION: (1)..(170)  
; OTHER INFORMATION: fusion protein of tumor necrosis factor alpha and  
; OTHER INFORMATION: affinity tag  
; FEATURE:  
; NAME/KEY: MISC FEATURE  
; LOCATION: (1)..(13)  
; OTHER INFORMATION: Affinity tag Arg-Gly-Ser-His(6)-Gly(3)  
; FEATURE:  
; NAME/KEY: MISC FEATURE  
; LOCATION: (14)..(170)  
; OTHER INFORMATION: mature tumor necrosis factor alpha  
US-10-490-953-35

Query Match 95.7%; Score 779; DB 8; Length 170;  
Best Local Similarity 96.2%; Pred. No. 1.5e-75;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
Db 14 VRSSRTSDKPKVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 73  
Qy 61 QVLFSGQGPCSTHLLTHTTISRIVSYQTPVNLLSAIRSPCQRETPEGAENPWYEPIYL 120  
Db 74 QVLFKGQGPCSTHLLTHTTISRIVSYQTKVNLLSAIRSPCQRETPEGAENPWYEPIYL 133

Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
Db 134 GGVFQLEKGRDLSAEINRPDYLDFAESGVYFGIIAL 170

RESULT 13  
US-11-082-544-8  
; Sequence 8, Application US/11082544  
; Publication No. US20050249706A1  
; GENERAL INFORMATION:  
; APPLICANT: Bermudes, G.  
; APPLICANT: King, I.  
; APPLICANT: Clairmont, C.  
; APPLICANT: Lin, S.  
; APPLICANT: Belcourt, M.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR  
; TITLE OF INVENTION: TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES  
; FILE REFERENCE: 8002-059  
; CURRENT APPLICATION NUMBER: US/11/082,544  
; PRIOR FILING DATE: 2005-03-17  
; PRIOR APPLICATION NUMBER: US/09/645,415  
; PRIOR FILING DATE: 2000-08-24  
; PRIOR APPLICATION NUMBER: 60/157,581  
; PRIOR FILING DATE: 1999-10-04  
; PRIOR APPLICATION NUMBER: 60/157,637  
; PRIOR FILING DATE: 1999-10-04  
; NUMBER OF SEQ ID NOS: 61  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 8  
; LENGTH: 180  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Fusion construct  
US-11-082-544-8

Query Match 95.7%; Score 779; DB 11; Length 180;  
Best Local Similarity 96.2%; Pred. No. 1.6e-75;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTSDMPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
Db 24 VRSSRTSDKPKVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 83  
Qy 61 QVLFSGQGPCSTHLLTHTTISRIVSYQTPVNLLSAIRSPCQRETPEGAENPWYEPIYL 120  
Db 84 QVLFKGQGPCSTHLLTHTTISRIVSYQTKVNLLSAIRSPCQRETPEGAENPWYEPIYL 143  
Qy 121 GGVFQLEPGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
Db 144 GGVFQLEKGRDLSAEINRPDYLDFAESGVYFGIIAL 180

RESULT 14  
US-10-523-328-1  
; Sequence 1, Application US/10523328  
; Publication No. US20060078944A1  
; GENERAL INFORMATION:  
; APPLICANT: Kuai, Jun  
; APPLICANT: Lin, Lih-Ling  
; APPLICANT: Woeters, Joseph L.  
; APPLICANT: Nickbarg, Elliot  
; TITLE OF INVENTION: METHODS AND REAGENTS RELATING TO INFLAMMATION AND APOPTOSIS  
; FILE REFERENCE: WYTH-F01-001  
; CURRENT APPLICATION NUMBER: US/10/523,328  
; CURRENT FILING DATE: 2005-02-01  
; PRIOR APPLICATION NUMBER: 60/400,410  
; PRIOR FILING DATE: 2002-08-01  
; NUMBER OF SEQ ID NOS: 20  
; SOFTWARE: Patentin version 3.2  
; SEQ ID NO 1  
; LENGTH: 233  
; TYPE: PRT

```
; ORGANISM: Homo sapiens
US-10-523-328-1
Query Match          95.7%; Score 779; DB 9; Length 233;
Best Local Similarity 96.2%; Pred. No. 2.2e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAGQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   |||
Db 77 VRSSRTPSDKPVAVVAVNPQAGQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 136
   |||
QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPYIL 120
   |||
Db 137 QVLFKQGCPCSTHVLTTHTTISRIVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPYIL 196
   |||
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGGVYFGIIAL 157
   |||
Db 197 GGVFQLEKGRLSAEINRPDYLDFAESGGVYFGIIAL 233
   |||

RESULT 15
US-11-246-387-8
; Sequence 8, Application US/11246387
; Publication No. US20060078994A1
; GENERAL INFORMATION:
; APPLICANT: Argos Therapeutics, Inc.
; APPLICANT: Kirin Beer Kabushiki Kaisha
; APPLICANT: Healey, Don
; APPLICANT: Tcherepanova, Irina
; APPLICANT: Adams, Melissa
; APPLICANT: Hinohara, Atsushi
; TITLE OF INVENTION: MATURE DENDRITIC CELL COMPOSITIONS AND METHODS FOR CULTURING SAME
; FILE REFERENCE: MER030
; CURRENT APPLICATION NUMBER: US/11/246,387
; CURRENT FILING DATE: 2005-10-07
; PRIOR APPLICATION NUMBER: US 60/522,512
; PRIOR FILING DATE: 2004-10-07
; NUMBER OF SEQ ID NOS: 26
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
; LENGTH: 233
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-246-387-8

Query Match          95.7%; Score 779; DB 11; Length 233;
Best Local Similarity 96.2%; Pred. No. 2.2e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDMPVAHVANPQAGQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   |||
Db 77 VRSSRTPSDKPVAVVAVNPQAGQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 136
   |||
QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTPVNLLSAIRSPCQRETPEGAEANPWYEPYIL 120
   |||
Db 137 QVLFKQGCPCSTHVLTTHTTISRIVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPYIL 196
   |||
QY 121 GGVFQLEPGDRLSAEINRPDYLDFAESGGVYFGIIAL 157
   |||
Db 197 GGVFQLEKGRLSAEINRPDYLDFAESGGVYFGIIAL 233
   |||

Search completed: May 5, 2006, 11:28:33
Job time : 9.75 secs
```

**THIS PAGE BLANK (USPTO)**



GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:07 ; Search time 74.25 Seconds  
(without alignments)  
929.057 Million cell updates/sec

Title: US-10-668-178-15

Perfect score: 806

Sequence: 1 VRSSRTPSDAPVAVHVP.....RPDYLDFAESGVYFGIALL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

A\_Geneseq\_21.\*  
1: Geneseq1980s.\*  
2: Geneseq1990s.\*  
3: Geneseq2000s.\*  
4: Geneseq2001s.\*  
5: Geneseq2002s.\*  
6: Geneseq2003as.\*  
7: Geneseq2003bs.\*  
8: Geneseq2004s.\*  
9: Geneseq2005s.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	778	96.5	157	2	AAR62465 Tumour ne
2	778	96.5	157	8	ADH10159 Human tum
3	777	96.4	157	1	AAP60524 Sequence
4	777	96.4	157	1	AAP70095 Tumour ne
5	777	96.4	157	1	AAP70144 Amino aci
6	777	96.4	157	2	AAR14270 Human TNF
7	777	96.4	157	2	AAR14112 Neutroph
8	777	96.4	157	2	AAR27747 Human tum
9	777	96.4	157	2	AAR42679 Human Tum
10	777	96.4	157	2	AAR38069 Human TNF
11	777	96.4	157	2	AAR62463 Tumour ne
12	777	96.4	157	2	AAR60243 Human TNF
13	777	96.4	157	2	AAR57437 Human tum
14	777	96.4	157	2	AAR28530 Human TNF
15	777	96.4	157	2	AAR40819 Human tum
16	777	96.4	157	2	ABB08912 Human tum
17	777	96.4	157	2	AAZ23242 Human tum
18	777	96.4	157	4	AAZ79124 Amino aci
19	777	96.4	157	4	AAE10848 Human tum
20	777	96.4	157	4	AAZ67761 Amino aci
21	777	96.4	157	4	AAZ74783 Wild type
22	777	96.4	157	5	AAE18373 Human mat
23	777	96.4	157	5	AAZ51166 Tumour ne
24	777	96.4	157	5	ABB76561 Human tum

25	777	96.4	157	5	ABG70571	Abg70571 Human tum
26	777	96.4	157	5	ABP54869	Abp54869 Human tum
27	777	96.4	157	5	AAB47940	Aab47940 Human tum
28	777	96.4	157	5	ABP54787	Abp54787 Human tum
29	777	96.4	157	5	ABG76348	Abg76348 Human ful
30	777	96.4	157	6	ABU09888	Abu09888 Human tum
31	777	96.4	157	6	ABG72947	Abg72947 Human tum
32	777	96.4	157	6	ABG75765	Abg75765 Human TNF
33	777	96.4	157	6	ABG75772	Abg75772 Human TNF
34	777	96.4	157	6	ABU63586	Abu63586 Human tum
35	777	96.4	157	7	ADC46568	Adc46568 Human tum
36	777	96.4	157	7	ADC61354	Adc61354 Human TNF
37	777	96.4	157	7	ADC81608	Adc81608 Human tum
38	777	96.4	157	7	ADB44654	Add44654 Human tum
39	777	96.4	157	7	ADB89878	Add89878 Human tum
40	777	96.4	157	7	ADG06773	Adg06773 Human ant
41	777	96.4	157	7	ABW02400	Abw02400 Human tum
42	777	96.4	157	7	ADG96348	Adg96348 Human tum
43	777	96.4	157	7	ABW02035	Abw02035 Human tum
44	777	96.4	157	7	ADF91146	Adf91146 Human tum
45	777	96.4	157	7	ADG27428	Adg27428 Human tum

## ALIGNMENTS

RESULT 1  
AAR62465  
ID AAR62465 standard; protein; 157 AA.  
XX  
AC AAR62465;  
XX  
DT 25-MAR-2003 (revised)  
DT 05-JUN-1995 (first entry)  
XX  
DE Tumour necrosis factor-alpha mutein K65A.  
XX  
KW Human; tumour necrosis factor; TNF; TNF-a; expression; mutain; mutation;  
KW receptor; affinity; therapeutic; diagnostic; cancer therapy; cancer;  
KW obesity; septic shock; meningitis.  
XX  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT Misc-difference 65  
FT /label= Lys to Ala  
XX  
PN EP619372-Al.  
XX  
PD 12-OCT-1994.  
PF 17-MAR-1994; 94EP-00104154.  
PR 29-MAR-1993; 93EP-00810224.  
XX  
PA (HOFF ) HOFFMANN LA ROCHE & CO AG F.  
XX  
PI Banner D, Lesslauer W, Loetscher H, Stueber D;  
XX  
DR WPI; 1994-311810/39.  
DR N-PSDB; AAQ87684.  
XX  
PT New human TNF-a muteins with higher affinity for p75-TNFR - useful e.g.  
PT for cancer therapy, treatment of obesity and toxic shock.  
XX  
PS Claim 4; Page 15; 53pp; English.  
XX  
CC The amino acid sequence of the mutated human tumour necrosis factor alpha  
CC (TNF-a). The mutein differs from the wild type at position 65 with a  
CC change from a Lys residue to a Ala residue. The gene encoding the protein  
CC is placed in the expression plasmid pDS56/RBSII and called  
CC pDS56/RBSII.Sphi-TNFA(K65A). The expression of the wild type or mutein  
CC proteins is regulated by the lac repressor present on the plasmid pREP4.

CC The gene encoding the protein is mutated at specific sites resulting in a  
 CC series of mutated proteins (AA62464-83 and AA63093-103). The biological  
 CC activities of TNF are mediated via specific receptors of mol. wt. 55 and  
 CC 75 kDa called p55-TNF-R and p75-TNF-R respectively. The mutated proteins  
 CC presented have a higher affinity for the human p75-TNF receptor than for  
 CC the p55-TNF receptor. The mutated proteins can be used in a variety of  
 CC therapeutic or diagnostic applications including cancer therapy,  
 CC treatment of obesity, septic shock or bacterial meningitis. (Updated on  
 CC 25-MAR-2003 to correct FN field.)  
 XX  
 XX

XX Sequence 157 AA;

Query Match 96.5%; Score 778; DB 2; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.4e-71;  
 Matches 151; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVLPSEGLYLIYS 60

DB 1 VRSSRTPSDKVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVLPSEGLYLIYS 60

QY 61 QVLFSGQGCPSPTHVLLTHTISRIAVSYQTRVNLSSAISPQORETPEGAEALPWTEPIYL 120

DB 61 QVLFAGQGCPSPTHVLLTHTISRIAVSYQTRVNLSSAISPQORETPEGAEALPWTEPIYL 120

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

DB 121 GGVFOLEKGRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 2

ADH10159

ID ADH10159 standard; protein; 157 AA.

XX

AC ADH10159;

DT 11-MAR-2004 (first entry)

XX Human tumour necrosis factor variant protein.

DE TNF; tumour necrosis factor; polyethylene glycol; cytostatic; cancer;  
 XX human; variant.

XX Homo sapiens.

XX

XX

Key Location/Qualifiers

FT Misc-difference 11

FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu

FT Misc-difference 65

FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu

FT Misc-difference 90

FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu

FT Misc-difference 98

FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu

FT Misc-difference 112

FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu

FT Misc-difference 128

FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu

XX EP1354893-A2.

XX

XX

PD 22-OCT-2003.

XX 30-JAN-2003; 2003EP-00250587.

XX 25-MAR-2002; 2002JP-00083509.

PR 26-JUN-2002; 2002JP-00185387.

XX (HAYB) HAYASHIBARA SEIBUTSU KAGAKU.

PA (MAYU) MAYUMI T.

PA (TSUT) TSUTSUMI Y.

PA (NAKA) NAKAGAWA S.

XX Mayumi T, Tsutsumi Y, Nakagawa S, Ikegami H;

PI

XX WPI; 2004-063952/07.

XX A physiologically active complex which comprises a protein part with  
 PT tumor necrosis factor activity and a high molecular part has higher  
 PT stability and retention in living bodies and is useful to treat disease,  
 PT particularly cancer.

XX Claim 2; SEQ ID NO 2; 18pp; English.

XX The present sequence represents a physiologically active complex which  
 CC comprises a proteinaceous part with tumour necrosis factor (TNF) activity  
 CC and a high molecular part bound artificially to the N-terminus of the  
 CC proteinaceous part. The proteinaceous part comprises the sequence  
 CC selected from ADH10159 and the molecular part has a molecular weight of  
 CC 500-5000 Da and is a homopolymer of polyethylene glycol or a copolymer of  
 CC ethylene glycol and its derivatives. The invention is used to treat  
 CC susceptible disease, particularly cancer. The complex has a higher  
 CC stability and longer retention time in living bodies than intact tumour  
 CC necrosis factor. The present sequence represents a human TNF variant  
 CC protein.

XX Sequence 157 AA;

Query Match 96.5%; Score 778; DB 8; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.4e-71;

Matches 151; Conservative 0; Mismatches 6; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVLPSEGLYLIYS 60

DB 1 VRSSRTPSDXPAHVANPQAEGLQWLNRRANALLANGVELRDNLQVLPSEGLYLIYS 60

QY 61 QVLFSGQGCPSPTHVLLTHTISRIAVSYQTRVNLSSAISPQORETPEGAEALPWTEPIYL 120

DB 61 QVLFAGQGCPSPTHVLLTHTISRIAVSYQTRVNLSSAISPQORETPEGAEALPWTEPIYL 120

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

DB 121 GGVFOLEKGRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 3

AAP60524

ID AAP60524 standard; protein; 157 AA.

XX

AC AAP60524;

XX

DT 25-MAR-2003 (revised)

DT 07-AUG-1991 (first entry)

XX Sequence of tumour necrosis factor (TNF).

DE Anticancer agent; antitumour; antimalarial; tumour necrosis factor.

XX Oryctolagus cuniculus.

XX WO8603751-A.

XX

XX

XX

XX 03-JUL-1986.

XX 19-DEC-1985; 85WO-EP000721.

XX 21-DEC-1984; 84US-00684595.

PR 09-OCT-1985; 85US-00785847.

PR 09-OCT-1986; 86WO-US002133.

XX (BIOJ) BIOGEN NV.

PA (FLER) FLERS W C.

PA (ALLE) ALLET B.

PA (BIOJ) BIOGEN INC.

XX Fiers WC, Franssen LM, Tavernier JHL, Marmenout ALM, Vanderheyd J;

PI Allet B;

XX WPI; 1986-182891/28.  
DR N-PSDB; AAN60442.  
XX Mammalian tumour necrosis factors - produced by culturing pro-karyotic  
PT hosts transformed with recombinant DNA.  
XX  
PS Claim 11; Page 66; 93pp; English.  
XX  
CC TNF-like polypeptides and compans. are produced by the fermentation of  
CC host cells transformed with at least one DNA sequence which codes for a  
CC mammalian TNF-like polypeptide operatively linked to an expression  
CC control sequence in the transformed host. (Updated on 25-MAR-2003 to  
CC correct PA field.)  
XX  
SQ Sequence 157 AA;  
  
Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 1.8e-71;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
DB 1 VRSSRTPSDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
  
QY 61 QVLFSGQGCPSPTHVLLTHTISRIASVYQTRVNLLSAISPCCORETPEGAEALPWYEPYIYL 120  
DB 61 QVLFKGQGCPSPTHVLLTHTISRIASVYQTRVNLLSAISPCCORETPEGAEALPWYEPYIYL 120  
  
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
  
RESULT 4  
AAP70095  
ID AAP70095 standard; protein; 157 AA.  
XX  
AC AAP70095;  
XX  
DT 04-APR-1991 (first entry)  
XX  
DE Tumour necrosis factor.  
XX  
KW Plasmid; tumour necrosis factor; antitumour agent.  
XX  
OS Escherichia coli.  
XX  
PN EP220482-A.  
XX  
PD 06-MAY-1987.  
XX  
PF 19-SEP-1986; 86EP-00112941.  
XX  
PR 30-SEP-1985; 85JP-00217740.  
XX  
PA (SUNR ) SUNTORY LTD.  
XX  
PI Oehima T, Tanaka S, Matsukura S;  
XX  
DR WPI; 1987-124161/18.  
XX  
CC New plasmid for efficient tumour necrosis factor prodn. - comprises  
PT plasmid with DNA fragment having phage-gene derived promoter region and E  
PT coli derived transcription termination sequence.  
XX  
PS Claim 6; Page 17-18; 31pp; English.  
XX  
CC Tumour necrosis factor can be expressed using a plasmid comprising a  
CC phage gene-derived promoter region upstream of the TNF structural gene  
CC and an E.coli trp gene terminator joined immediately downstream of a  
CC base sequence encoding the termination of translation of the structural  
CC gene. The plasmid is capable of efficient expression of TNF on a large

CC scale and with high purity. The transformants may achieve a TNF activity  
CC 40-300 times as great as with prior transformants. TNF may comprise at  
CC least 40% of total cell protein. The plasmid lacks a pBR322 derived  
CC repressor of primer gene. TNF is an antitumour agent  
XX  
SQ Sequence 157 AA;  
  
Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 1.8e-71;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
DB 1 VRSSRTPSDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
  
QY 61 QVLFSGQGCPSPTHVLLTHTISRIASVYQTRVNLLSAISPCCORETPEGAEALPWYEPYIYL 120  
DB 61 QVLFKGQGCPSPTHVLLTHTISRIASVYQTRVNLLSAISPCCORETPEGAEALPWYEPYIYL 120  
  
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
  
RESULT 5  
AAP70144  
ID AAP70144 standard; protein; 157 AA.  
XX  
AC AAP70144;  
XX  
DT 03-OCT-2002 (revised)  
XX  
DT 13-MAY-1991 (first entry)  
XX  
DE Amino acid sequence of mature tumour necrosis factor (TNF).  
XX  
KW Tumour necrosis factor analogue; lymphokine; anti-tumour.  
XX  
OS Homo sapiens.  
XX  
PN EP220966-A.  
XX  
PD 06-MAY-1987.  
XX  
PF 30-OCT-1986; 86EP-00308484.  
XX  
PR 30-OCT-1985; 85US-00792815.  
XX  
PR 22-MAY-1986; 86US-00866213.  
XX  
PA (CETU ) CETUS CORP.  
XX  
PI Lin LSL, Dorin G, Yamamoto R, Hanisch WH, Thomson JW, Wolfe SN;  
XX  
DR WPI; 1987-124486/18.  
XX  
PT Purified recombinant tumour necrosis factor compsn. - obtd. by using a  
PT hydrophobic matrix to retain the factor followed by chromatographic  
PT elution.  
XX  
PS Disclosure; Fig 3; 25pp; English.  
XX  
CC Specific examples of TNF analogues include N-terminally deleted species  
CC of the protein, including those having deletions of the N-terminal  
CC 1,2,3,4,5,6,7,8,9,10,14, and 31 AA's of the SQ in AAP70144. Muteins  
CC lacking up to and including the first ten AA's at the N-terminus have  
CC been found to have comparable or greater specific activities as compared  
CC to the TNF of the SQ shown in AAP70144. Other muteins of TNF covered by  
CC the method of the invention include species of TNF in which any or all of  
CC the cysteine residues have been converted to serine or other neutral AA's  
CC for example, glycine or alanine. In general, neutral AA replacements of  
CC the cysteine at position 69 result in active TNF proteins. It appears  
CC that the cysteine at position 101 is also dispensable. (Updated on 03-OCT  
CC -2002 to add missing OS field.)  
XX

```

SQ Sequence 157 AA;
Query Match          96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
DB 1 VRSSRTPSKPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTRVNLLSAISPQRETPEGAEALPWYEPIYL 120
DB 61 QVLFKGQGCPSHTVLLTHTISRIAVSYQTRVNLLSAISPQRETPEGAEALPWYEPIYL 120
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
DB 121 GGVFOLEKGRDLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 6
AAR14270
ID AAR14270 standard; peptide; 157 AA.
AC AAR14270;
DT 09-JAN-1992 (first entry)
XX Human TNF.
DE Tumour necrosis factor; cytotoxic; metastasis.
KW Homo sapiens.
OS
FH Key Location/Qualifiers
FT Peptide 1..18
FT /label= #301
FT Peptide 13..26
FT /label= #306
FT Peptide 22..40
FT /label= #307
FT Peptide 43..58
FT /label= #302
FT /note= "claim 2"
FT Peptide 54..68
FT /label= #308
FT /note= "claim 3"
FT Peptide 63..83
FT /label= #304
FT Peptide 70..80
FT /note= "claim 7"
FT Peptide 73..94
FT /label= #309
FT /note= "claim 5"
FT Peptide 79..89
FT /label= #323
FT Peptide 81..94
FT /note= "claim 6"
FT Peptide 94..109
FT /label= #303
FT Peptide 111..120
FT /label= #275
FT Peptide 132..150
FT /label= #305
FT /note= "claim 4"
XX
PN WO9114702-A.
XX
XX 03-OCT-1991.
XX
XX 19-MAR-1990; 90AU-00009156.
XX
XX 19-MAR-1990; 90AU-00009156.
XX
XX 22-NOV-1990; 90AU-00003477.
XX
XX (PEPT-) PEPTIDE TECHN LTD.
XX
XX Rathjen D, Aston R;
XX
XX WPI; 1991-310534/42.
XX
XX New cytotoxic and/or proliferation-inhibiting polypeptide fragments -
XX useful in treatment of tumours with reduced side effects.
XX
XX Claim 1; Fig 1; 35pb; English.
XX
XX The peptide fragments indicated in the feature table have cytotoxic
XX and/or inhibition of proliferation effects on tumour cells. The peptides
XX may be co-administered with whole TNF alpha or with a cyto-toxic drug
XX
XX Sequence 157 AA;
Query Match          96.4%; Score 777; DB 2; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
DB 1 VRSSRTPSKPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
QY 61 QVLFSGQGCPSHTVLLTHTISRIAVSYQTRVNLLSAISPQRETPEGAEALPWYEPIYL 120
DB 61 QVLFKGQGCPSHTVLLTHTISRIAVSYQTRVNLLSAISPQRETPEGAEALPWYEPIYL 120
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
DB 121 GGVFOLEKGRDLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 7
AAR14112
ID AAR14112 standard; peptide; 157 AA.
AC AAR14112;
DT 11-DEC-1991 (first entry)
XX Neutrophil stimulating peptide.
DE
DE Neutrophil stimulating peptide.
KW hTNF; AIDS; cancer; inflammatory syndromes; rheumatoid arthritis;
KW adult respiratory distress syndrome; human tumour necrosis factor.
XX Synthetic.
FH Key Location/Qualifiers
FT Peptide 1..18
FT /label= peptide 301
FT Peptide 13..26
FT /label= peptide 306
FT Peptide 22..40
FT /label= peptide 307
FT Peptide 43..58
FT /label= peptide 302
FT Peptide 54..68
FT /label= peptide 308
FT /note= "neutrophil stimulating activity and selective
FT effects on neutrophil degranulation"
FT Peptide 63..83
FT /label= peptide 304
FT /note= "neutrophil stimulating activity"
FT Peptide 70..80
FT /label= peptide 395
FT /note= "neutrophil stimulating activity"
FT Peptide 73..94
FT /label= peptide 309
FT /note= "neutrophil stimulating activity"
FT Peptide 76..84

```

```

FT Peptide /label= peptide 393
FT 79..89
FT /label= peptide 323
FT Peptide 81..94
FT Peptide /label= peptide 394
FT 84..94
FT Peptide /label= peptide 396
FT 94..109
FT Peptide /label= peptide 303
FT 111..120
FT Peptide /label= peptide 275
FT 132..150
FT Peptide /label= peptide 305
XX
XX W09113908-A.
XX
XX 19-SEP-1991.
XX
XX 12-MAR-1990; 90AU-00009065.
XX
XX 12-MAR-1990; 90AU-00009065.
XX
XX (PEPT-) PEPTIDE TECHN LTD.
XX
XX Rathjen DA, Ferrante A;
XX
XX WPI; 1991-295580/40.
XX
XX New neutrophil stimulating peptide(s) derived from human TNF - useful for
XX treating depressed neutrophil function in e.g. AIDS and cancer, and
XX inflammatory syndrome in e.g. rheumatoid arthritis.
XX
XX Disclosure; Fig 1; 27pp; English.
XX
XX The amino acid sequence codes for human tumour necrosis factor. Peptides
XX derived from this sequence have neutrophil stimulating activity. The
XX peptides were synthesised using the Fmoc-polyamide method of solid
XX peptide synthesis. Treatment with the peptides can be used to restore
XX depressed or aberrant neutrophil activity without causing the side
XX effects associated with the therapeutic use of the whole TNF molecule.
XX Such peptides can be used in the treatment of individuals suffering from
XX AIDS, cancer or inflammatory syndromes e.g. rheumatoid arthritis or adult
XX respiratory distress syndrome
XX
XX Sequence 157 AA;
XX
XX Query Match 96.4%; Score 777; DB 2; Length 157;
XX Best Local Similarity 96.2%; Pred. No. 1.8e-71;
XX Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
XX
QY 1 VRSSRTPSDAPVAHVVPANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSSGLYLIYS 60
DB 1 VRSSRTPSDKPKVAHVVPANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSSGLYLIYS 60
QY 61 QVLFSGQGCPCSTHVLTLTHTSIRAVSYQTRVNLLSAISPCQRETPEGAEALPWYEPYIL 120
DB 61 QVLFKQGCPCSTHVLTLTHTSIRAVSYQTRVNLLSAISPCQRETPEGAEALPWYEPYIL 120
QY 121 GGVFQLETDGRLSAEINRPDYLDFASGGQVYFGIALL 157
DB 121 GGVFQLEKGRLSAEINRPDYLDFASGGQVYFGIALL 157

```

## RESULT 8

```

AAR27747
ID AAR27747 standard; protein; 157 AA.
XX
XX AAR27747;
XX
XX 25-MAR-2003 (revised)
DT 03-MAR-1993 (first entry)
XX
XX Human tumour necrosis factor alpha.
DE

```

```

XX hTNF; monoclonal antibody; sepsis syndrome, cachexia, microbial;
XX infection; rheumatoid arthritis; inflammation.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX Region 1..20
XX /note= "putative receptor binding portion"
XX Region 11..13
XX /note= "putative receptor binding portion"
XX Region 37..42
XX /note= "putative receptor binding portion"
XX Region 49..57
XX /note= "putative receptor binding portion"
XX Region 59..80
XX /note= "epitope for Ab binding"
XX Region 87..108
XX /note= "epitope for Ab binding"
XX Region 155..157
XX /note= "putative receptor binding portion"
XX
XX W09216553-A1.
XX
XX 01-OCT-1992.
XX
XX 18-MAR-1992; 92WO-US002190.
XX
XX 18-MAR-1991; 91US-00670827.
XX
XX (UYNV) UNIV NEW YORK STATE.
XX (CENZ) CENTOCOR INC.
XX
XX Le J, Vilcek J, Daddona PE, Ghayeb J, Knight DM, Siegel SA;
XX
XX WPI; 1992-349155/42.
XX
XX Monoclonal and chimeric antibodies to human TNF - useful for treating
XX sepsis syndrome, cachexia, microbial infections, rheumatoid arthritis,
XX inflammation, etc.
XX
XX Claim 22; Page 77; 105pp; English.
XX
XX Anti-TNF antibodies were prepd. which bound to an epitope of at least 5
XX amino acids of residues 87-108 or both of residues 59-80 and 87-108 of
XX human tumour necrosis factor alpha, but do not bind known or putative
XX receptor binding portions of TNF, such as those shown in the features
XX table. The antibodies may be prepd. by hybridomas or recombinantly and
XX may be used for in vivo treatment and diagnosis of human pathologies
XX associated with TNF e.g. sepsis syndrome, cachexia, circulatory collapse
XX and shock resulting from acute or chronic bacterial infection, acute and
XX parasitic or infectious processes, including bacterial, viral and fungal
XX infections, acute and chronic immune and autoimmune pathologies such as
XX sarcoidosis and Crohn's disease, vascular inflammatory pathologies such
XX as disseminated intravascular coagulation, graft vs. host disease,
XX Kawasaki's disease and malignant tumours. The antibodies may be used in
XX combination with TNF therapy, e.g. cancer therapy to remove the undesired
XX side effects. They may also be used to remove TNF from fluids, tissues or
XX cells, to detect or quantitate TNF and for blocking TNF activity in vivo,
XX in situ and in vitro. (Updated on 25-MAR-2003 to correct PN field.)
XX (Updated on 25-MAR-2003 to correct PA field.)
XX
XX Sequence 157 AA;
XX
XX Query Match 96.4%; Score 777; DB 2; Length 157;
XX Best Local Similarity 96.2%; Pred. No. 1.8e-71;
XX Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
XX
QY 1 VRSSRTPSDAPVAHVVPANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSSGLYLIYS 60
DB 1 VRSSRTPSDKPKVAHVVPANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSSGLYLIYS 60
QY 61 QVLFSGQGCPCSTHVLTLTHTSIRAVSYQTRVNLLSAISPCQRETPEGAEALPWYEPYIL 120

```

```

Db      61 QVLFKGGCPSTHLLTHTISRIASVQTKVNLSSAISKPCQRETPEGAEPWTEPIYL 120
QY      121 GGVFQLETGDRLSAEINRPDYLDFAESGGVYFGIIAL 157
Db      121 GGVFQLEKGDRLSABINRPDYLDFAESGGVYFGIIAL 157

RESULT 9
AAR42679
ID AAR42679 standard; protein; 157 AA.
XX AC AAR42679;
XX DT 25-MAR-2003 (revised)
XX DT 19-APR-1994 (first entry)
XX DE Human Tumour Necrosis Factor alpha.
XX KW Plasmid pDS56/RBSII, Sphi-TNF-alpha; mutein; inflammation; obesity;
XX KW septic shock; treatment; mutagenic PCR; cytokine.
XX OS Homo sapiens.
XX PN EP563714-A2.
XX PD 06-OCT-1993.
XX PF 20-MAR-1993; 93EP-00104591.
XX PR 02-APR-1992; 92EP-00810249.
XX PA (HOFF ) HOFFMANN LA ROCHE & CO AG F.
XX PI Lesslauer W, Loetscher H, Stueber D;
XX DR WPI; 1993-313109/40.
XX DR N-PSDB; AAQ49223.
XX PT New human Tumour Necrosis Factor mutein(s) - have amino acid change at
XX PT position 86, for selective binding affinity to the p55-TNF-Receptor.
XX PS Disclosure; Fig 1b; 29pp; English.
XX CC The human TNF-alpha expression plasmid pDS56/RBSII, Sphi-TNF-alpha was
XX CC used as the source of TNF-alpha gene for preparing the various TNF-alpha
XX CC mutants of the invention. Mutagenic PCR was used on the wild-type
XX CC template to introduce amino acid substitutions at sites affecting binding
XX CC specificity. The mutants retain binding activity to the human p55-TNF-
XX CC Receptor but do not bind to the human p75-TNF-Receptor. Consequently,
XX CC the mutants have lower systemic toxicity and only elicit some of the
XX CC activities of wild-type TNF-a. (Updated on 25-MAR-2003 to correct FN
XX CC field.)
SQ      Sequence 157 AA;

Query Match          96.4%; Score 777; DB 2; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY      1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db      1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY      61 QVLFSGGCGCPSTHLLTHTISRIASVQTKVNLSSAISKPCQRETPEGAEPWTEPIYL 120
Db      61 QVLFKGGCPSTHLLTHTISRIASVQTKVNLSSAISKPCQRETPEGAEPWTEPIYL 120

QY      121 GGVFQLETGDRLSAEINRPDYLDFAESGGVYFGIIAL 157
Db      121 GGVFQLEKGDRLSABINRPDYLDFAESGGVYFGIIAL 157

RESULT 11
AAR62463
ID AAR62463 standard; protein; 157 AA.
XX AC AAR62463;
XX DT 25-MAR-2003 (revised)
XX DT 02-JUN-1995 (first entry)

```

```

RESULT 10
AAR38069
ID AAR38069 standard; protein; 157 AA.
XX AC AAR38069;
XX DT 14-OCT-1993 (first entry)
XX DE Human TNF-alpha.
XX KW Withdrawal symptom; tumour necrosis factor; narcotic; nicotine; morphine;
XX KW thymosin; alcohol.
XX OS Homo sapiens.
XX PN JP05117161-A.
XX PD 14-MAY-1993.
XX PF 23-OCT-1991; 91JP-00337489.
XX PR 23-OCT-1991; 91JP-00337489.
XX PA (SOMA/) SOMA G.
XX PA (MIZU/) MIZUO D.
XX DR WPI; 1993-191442/24.
XX PT Drugs for treating alcohol, morphine narcotics or nicotine withdrawal
XX PT symptoms - contg. tumour necrosis factor-alpha, thymosin tumour necrosis
XX PT factor fused cpd. or murine tumour necrosis factor-alpha prepd. from
XX PT macrophage of human or animal.
XX PS Disclosure; Page 2-3; 5pp; Japanese.
XX CC Drugs acting on withdrawal symptoms contain TNF, esp. TNF-alpha (AAR38069
XX CC and AAR38077), rTNF-S-AM1 (AAR38070), rTNF-S-AM2 (AAR38071), thymosin-
XX CC beta4-TNF fused cpd. (AAR38072-76). The drugs are effective in treatment
XX CC of withdrawal symptoms caused by habitual use of alcohol, morphine
XX CC narcotics or nicotine in humans or animals (e.g. swine, dog, cat,
XX CC chicken). The drugs may be administered as TNF at a dose of 10ng-10mg
XX CC orally or 5ng-1mg i.v. or 50ng-50mg percutaneously a day for a human
XX CC adult. In animals, the drugs may be administered according to the human
XX CC dosage (1/60 per kg body wt.)
XX SQ      Sequence 157 AA;

Query Match          96.4%; Score 777; DB 2; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY      1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db      1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY      61 QVLFSGGCGCPSTHLLTHTISRIASVQTKVNLSSAISKPCQRETPEGAEPWTEPIYL 120
Db      61 QVLFKGGCPSTHLLTHTISRIASVQTKVNLSSAISKPCQRETPEGAEPWTEPIYL 120

QY      121 GGVFQLETGDRLSAEINRPDYLDFAESGGVYFGIIAL 157
Db      121 GGVFQLEKGDRLSABINRPDYLDFAESGGVYFGIIAL 157

RESULT 11
AAR62463
ID AAR62463 standard; protein; 157 AA.
XX AC AAR62463;
XX DT 25-MAR-2003 (revised)
XX DT 02-JUN-1995 (first entry)

```

DE Tumour necrosis factor-alpha protein.  
XX  
KW Human: tumour necrosis factor; TNF; TNF-a; expression; mutein; mutation;  
KW receptor; affinity; therapeutic; diagnostic; cancer therapy; cancer;  
XX obesity; septic shock; meningitis.  
XX  
OS Homo sapiens.  
XX  
PN EP619372-A1.  
XX  
PD 12-OCT-1994.  
XX  
PF 17-MAR-1994; 94EP-00104154.  
XX  
PR 29-MAR-1993; 93EP-00810224.  
XX  
PA (HOFF ) HOFFMANN LA ROCHE & CO AG F.  
XX  
PI Banner D, Lesslauer W, Loetscher H, Stueber D;  
XX WPI; 1994-311810/39.  
DR N-PSDB; AAQ73431.  
XX  
PT New human TNF-a muteins with higher affinity for p75-TNFR - useful e.g.  
PT for cancer therapy, treatment of obesity and toxic shock.  
XX  
PS Disclosure; Page 28-31; 53pp; English.  
XX  
CC The amino acid sequence of the human wild type tumour necrosis factor  
CC alpha (TNF-a). The gene encoding the protein is placed in the expression  
CC plasmid pDS56/RBSII and called pDS56/RBSII, Sphi-TNFA. The expression of  
CC the wild type or mutant proteins is regulated by the lac repressor  
CC present on the plasmid pREP4. The gene encoding the protein is mutated at  
CC specific sites resulting in series of mutated proteins (AAR62464-83 and  
CC AAR63093-103). The biological activities of TNF are mediated via specific  
CC receptors of mol. wt. 55 and 75 kDa called p55-TNF-R and p75-TNF-R  
CC respectively. The mutated protein presented have a higher affinity for  
CC the human p75-TNF receptor than for the p55-TNF receptor. The mutated  
CC proteins can be used in a variety of therapeutic or diagnostic  
CC applications including cancer therapy, treatment of obesity, septic shock  
CC or bacterial meningitis. (Updated on 25-MAR-2003 to correct PN field.)  
XX  
SQ Sequence 157 AA;  
  
Query Match 96.4%; Score 777; DB 2; Length 157;  
Best Local Similarity 96.2%; Pred. No. 1.8e-71;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSSRTPSDAPVAHVAVNPQAGQQLWLNRRNALLANGVELRDQLVVPSEGLYIYS 60  
DB 1 VRSSSRTPSDKPAHVAVNPQAGQQLWLNRRNALLANGVELRDQLVVPSEGLYIYS 60  
QY 61 QVLFSGGCGCPSTHVLTHLTISRIASVYQTRVNLLSAISPQRETPEGAALPWYEPYVL 120  
DB 61 QVLFSGGCGCPSTHVLTHLTISRIASVYQTRVNLLSAISPQRETPEGAALPWYEPYVL 120  
QY 121 GGVFQLETKGRLSAEINRPDYLDPASGQVYFGIALL 157  
DB 121 GGVFQLETKGRLSAEINRPDYLDPASGQVYFGIALL 157  
  
RESULT 12  
AAR60243  
ID AAR60243 standard; peptide; 157 AA.  
XX  
AC AAR60243;  
XX  
XX  
DT 25-MAR-2003 (revised)  
DT 16-MAR-1995 (first entry)  
XX  
XX Human TNF-alpha.  
XX  
KW TNF-alpha; tumor necrosis factor-alpha; tip peptide; mutein; cancer;

sepsis; inflammation; cytokine; metastasis; lectin; adhesion;  
mutagenesis.  
XX  
OS Homo sapiens.  
XX  
FH Key Location/Qualifiers  
FT Misc-difference 1..8  
FT /note= "in TNF muteins, residues 1-8 are replaced by a  
FT peptide within the region spanning aa 5-30 of laminin"  
FT  
FT Misc-difference 101  
FT /note= "in TNF muteins, residue 101 is Ser"  
FT  
FT Misc-difference 102  
FT /note= "in TNF muteins, residue 102 is Arg or deleted"  
FT  
FT Misc-difference 103  
FT /note= "in TNF muteins, residue 103 is Trp"  
FT  
FT Misc-difference 105  
FT /note= "in TNF muteins, residue 105 is Pro or Ile or  
FT residue 105 is Ile and residue 44 is Cys"  
FT  
FT Misc-difference 106  
FT /note= "in TNF muteins, residue 106 is Ser, or residue  
FT 106 is Ser and residue 131 is Cys"  
FT  
FT Misc-difference 108  
FT /note= "In TNF muteins, residue 108 is Phe"  
FT  
FT Misc-difference 110  
FT /note= "In TNF muteins, residue 110 is Lys"  
FT  
FT Misc-difference 111..112  
FT /note= "In TNF muteins, residues 111-112 are deleted, or  
FT residue 111 is deleted or Met, or residue 111 is deleted  
FT and residue 109 is Gln and residue 120 is His"  
FT  
FT Misc-difference 115..116  
FT /note= "In TNF muteins, residues 115-116 are Ile-Lys"  
FT  
FT Misc-difference 115  
FT /note= "In TNF muteins, residue 115 is Ile or Cys"  
FT  
FT Misc-difference 116  
FT /note= "In TNF muteins, residue 116 is Lys, His or Val"  
FT  
XX W09418325-A1.  
XX  
XX 18-AUG-1994.  
XX  
XX 02-FEB-1994; 94WO-EP000286.  
XX  
XX 03-FEB-1993; 93EP-00400262.  
XX  
XX (INNO-) INNOGENETICS NV SA.  
XX  
XX Lucas R, De Baetselier P, Franssen L, Sablon E;  
XX  
XX WPI; 1994-279746/34.  
XX  
XX New tumour necrosis factor -alpha muteins, antibodies and antisense  
XX peptide(s) - used in the treatment of diseases and conditions associated  
XX with the in vivo activities of TNF-A eg cancer, sepsis, inflammation,  
XX etc.  
XX  
XX Disclosure; Page 10; 132pp; English.  
XX  
XX TNF-alpha muteins were constructed in the tip region (given in AAR60231)  
XX of human TNF-alpha. The mutations resulted in: modulation of lectin-like  
XX activity; reduced toxic activity; modulation of inflammatory activity;  
XX modulated adhesion molecule inducing capacity; reduced metastasis  
XX promoting activity; and/or increased half-life. Muteins of the mouse TNF  
XX (given in AAR60244) may also be produced. (Updated on 25-MAR-2003 to  
XX correct PN field.)  
XX  
XX Sequence 157 AA;  
SQ  
  
Query Match 96.4%; Score 777; DB 2; Length 157;  
Best Local Similarity 96.2%; Pred. No. 1.8e-71;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSSRTPSDAPVAHVAVNPQAGQQLWLNRRNALLANGVELRDQLVVPSEGLYIYS 60  
DB 1 VRSSSRTPSDKPAHVAVNPQAGQQLWLNRRNALLANGVELRDQLVVPSEGLYIYS 60  
QY 61 QVLFSGGCGCPSTHVLTHLTISRIASVYQTRVNLLSAISPQRETPEGAALPWYEPYVL 120  
DB 61 QVLFSGGCGCPSTHVLTHLTISRIASVYQTRVNLLSAISPQRETPEGAALPWYEPYVL 120  
QY 121 GGVFQLETKGRLSAEINRPDYLDPASGQVYFGIALL 157  
DB 121 GGVFQLETKGRLSAEINRPDYLDPASGQVYFGIALL 157  
  
RESULT 12  
AAR60243  
ID AAR60243 standard; peptide; 157 AA.  
XX  
AC AAR60243;  
XX  
XX  
DT 25-MAR-2003 (revised)  
DT 16-MAR-1995 (first entry)  
XX  
XX Human TNF-alpha.  
XX  
KW TNF-alpha; tumor necrosis factor-alpha; tip peptide; mutein; cancer;

Db 1 VRSSRTPSDKPVAVHVNPAEQGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 QY 61 QVLFSGQGPCSTHVLTTHTISRIAVSYQTRVNLLSAISPQORETPEGAEALPWTEPIYL 120  
 DB 61 QVLFKGGQGPCSTHVLTTHTISRIAVSYQTKVNLLSAISPQORETPEGAEAKPWTEPIYL 120  
 QY 121 GGVFOLETGDRLSAEINRPDYLDPAESGGVYFGIIAL 157  
 DB 121 GGVFOLEKGDRLSAEINRPDYLDPAESGGVYFGIIAL 157

## RESULT 13

AAR57437

ID AAR57437 standard; protein; 157 AA.

XX AAR57437;

XX 25-MAR-2003 (revised)

DT 13-MAR-1995 (first entry)

XX Human tumour necrosis factor (wild-type).

DE Tumour necrosis factor; TNF; mutein; variant; antitumour; toxicity;

XX haemorrhagic necrosis; antiviral; parasite; malaria.

KW Homo sapiens.

XX Key

FH Misc-difference 1. 7

FT /note= "one or more of the first 7 N-terminal amino acids  
 may be deleted"

FT Misc-difference 4

FT /note= "Ser pref. replaced by Arg"

FT Misc-difference 5

FT /note= "Ser pref. replaced by Arg"

FT Misc-difference 6

FT /note= "Arg pref. replaced by Ala"

FT Misc-difference 7

FT /note= "Thr pref. replaced by His or Lys"

FT Misc-difference 8

FT /note= "Pro pref. replaced by Arg"

FT Misc-difference 9

FT /note= "Ser pref. replaced by Lys"

FT Misc-difference 10

FT /note= "Asp pref. replaced by Arg"

FT Misc-difference 38

FT /note= "Ala pref. replaced by Asp"

FT Misc-difference 39

FT /note= "Asn pref. replaced by Asp, Lys or Val"

FT Misc-difference 40

FT /note= "Gly pref. replaced by Asp, Lys or Val"

FT Misc-difference 41

FT /note= "Val pref. replaced by Ser"

FT Misc-difference 52

FT /note= "Ser pref. replaced by Ile, Glu or Lys"

FT Misc-difference 53

FT /note= "Glu pref. replaced by Lys or Leu"

FT Misc-difference 54

FT /note= "Gly pref. replaced by Asp or Val"

FT Misc-difference 56

FT /note= "Tyr pref. replaced by Phe or Glu"

FT Misc-difference 85

FT /note= "Val pref. replaced by Glu or Arg"

FT Misc-difference 86

FT /note= "Ser pref. replaced by Leu, Lys, Glu or Asp"

FT Misc-difference 87

FT /note= "Tyr pref. replaced by Glu or Arg"

FT Misc-difference 88

FT /note= "Gln pref. replaced by Glu"

FT Misc-difference 127

FT /note= "Glu pref. replaced by Ala, Val or Lys"

FT Misc-difference 128

FT /note= "Lys pref. replaced by Ala, Val or Glu"

FT

FT Misc-difference 129  
 FT /note= "Gly pref. replaced by Glu, Lys or Val"  
 FT Misc-difference 156  
 FT /note= "Ala pref. replaced by Asp"  
 FT Misc-difference 157  
 FT /note= "Leu pref. replaced by Phe"  
 XX DE4404124-Al.  
 XX PD 11-AUG-1994.  
 XX 09-FEB-1994; 94DE-04404124.  
 XX 09-FEB-1993; 93KR-00001751.  
 XX (HANI-) HANIL SYNTHETIC FIBER CO LTD.  
 XX Shin H, Shin N, Lee I, Kang S;  
 XX WPI: 1994-250457/31.  
 XX DR N-PSDB; AAQ67089.  
 XX New tumour necrosis factor muteins and related DNA - also vectors and  
 FT transformed cells, with increased antitumour activity and lower toxicity  
 FT than wild type protein.  
 XX Claim 1; Page 20; 23pp; German.  
 XX TNF muteins are claimed, in which at least one amino acid at positions 4-  
 CC 10, 38-41, 52-54, 56, 85-88, 127-129, 156 or 157 is exchanged for a  
 CC different amino acid. Opt. one or more of the first 7 N-terminal amino  
 CC acids is deleted. TNF causes haemorrhagic necrosis of tumours; has anti-  
 CC viral activity and inactivates some species of malarial parasites. The  
 CC muteins have increased antitumour activity and lower toxicity than wild-  
 CC type protein. (Updated on 25-MAR-2003 to correct PN field.)  
 XX Sequence 157 AA;

## Query Match

96.4%; Score 777; DB 2; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.8e-71;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPAEQGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

DB 1 VRSSRTPSDAPVAHVANPAEQGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY 61 QVLFSGQGPCSTHVLTTHTISRIAVSYQTRVNLLSAISPQORETPEGAEALPWTEPIYL 120

DB 61 QVLFKGGQGPCSTHVLTTHTISRIAVSYQTKVNLLSAISPQORETPEGAEAKPWTEPIYL 120

QY 121 GGVFOLETGDRLSAEINRPDYLDPAESGGVYFGIIAL 157

DB 121 GGVFOLEKGDRLSAEINRPDYLDPAESGGVYFGIIAL 157

## RESULT 14

AAW28530

ID AAW28530 standard; protein; 157 AA.

XX AAW28530;

XX 25-MAR-2003 (revised)

DT 11-JAN-1998 (first entry)

XX Human TNF.

XX TNF; tumour necrosis factor; Crohn's disease; cA2 antibody.

XX Homo sapiens.

XX Key

FH Location/Qualifiers

FT 11. .13

FT /label= epitope

FT



FT Region 37. .42  
 FT /label= epitope  
 FT Region 49. 57  
 FT /label= epitope  
 FT Region 59. .80  
 FT /label= epitope  
 FT Region 87. .108  
 FT /label= epitope  
 FT Region 155. .157  
 FT /label= epitope  
 XX  
 PN US5656272-A.  
 XX  
 XX 12-AUG-1997.  
 XX  
 XX 04-FEB-1994; 94US-00192102.  
 XX  
 XX 18-MAR-1991; 91US-00670827.  
 PR 18-MAR-1992; 92US-00853606.  
 PR 11-SEP-1992; 92US-00943852.  
 PR 26-JAN-1993; 93US-00010406.  
 PR 02-FEB-1993; 93US-00013413.  
 XX  
 XX (CENZ ) CENTOCOR INC.  
 PA (UYNV-) UNIV NEW YORK MEDICAL CENT.  
 PA  
 XX Dadonna P, Le J, Ghayeb J, Knight D, Siegel SA, Vilcek J;  
 PI WPI; 1997-414547/38.  
 XX  
 XX Treatment of Crohn's disease - by administering humanised ca2 antibody  
 PT specific for tumour necrosis factor.  
 XX  
 XX Claim 4 and 6; Fig 13; 87pp; English.  
 PS  
 XX An anti-TNF chimeric antibody may be administered for treating TNF-alpha  
 CC mediated Crohn's disease in a human. The anti-TNF chimeric antibody  
 CC competitively inhibits binding of TNF to monoclonal antibody ca2. The  
 CC anti-TNF antibody does not bind to one or more epitopes in amino acids 11  
 CC -13, 37-42, 49-57 or 155-157 of hTNF, but does bind to one or more  
 CC epitopes included in amino acids between 87-108 or both 87-108 and 59-80  
 CC of hTNF. (Updated on 25-MAR-2003 to correct PF field.)  
 XX  
 SQ Sequence 157 AA;  
 Query Match 96.4%; Score 777; DB 2; Length 157;  
 Best Local Similarity 96.2%; Pred. No. 1.8e-71;  
 Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDAPVAHVAVNPQAEQQLWLNRRNALLANGVELRDQLVVPSEGLYLIYS 60  
 DB 1 VRSSRTPSDKPVAHVAVNPQAEQQLWLNRRNALLANGVELRDQLVVPSEGLYLIYS 60  
 QY 61 QVLFSGGCGCPSTHVLTHHTISRIASVYQTRVNLSSAISPQRETPEGALPWYPIYL 120  
 DB 61 QVLFKGGCGCESTHVLTHHTISRIASVYQTKVNLSSAISKPCQRETPEGAEKWPYPIYL 120  
 QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
 DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
 RESULT 15  
 AAW40819  
 ID AAW40819 standard; peptide; 157 AA.  
 XX  
 AC AAW40819;  
 XX  
 DT 02-APR-1998 (first entry)  
 XX  
 XX Human tumour necrosis factor.  
 DE  
 XX Tumour necrosis factor; human; hTNF; rheumatoid arthritis; malignancy;  
 KW

anti-TNF chimeric antibody; inhibitor; diagnosis; therapy; infection;  
 chronic inflammatory disease; autoimmune disease;  
 neurodegenerative disease.  
 Homo sapiens.  
 Key Location/Qualifiers  
 FT Misc-difference 59. .80  
 FT /note= "epitope recognised by antibody of the invention"  
 FT Misc-difference 87. .108  
 FT /note= "epitope recognised by antibody of the invention"  
 FT  
 XX US5698195-A.  
 XX  
 XX 16-DEC-1997.  
 XX  
 XX 18-OCT-1994; 94US-00324799.  
 XX  
 XX 18-MAR-1991; 91US-00670827.  
 PR 18-MAR-1992; 92US-00853606.  
 PR 11-SEP-1992; 92US-00943852.  
 PR 29-JAN-1993; 93US-00010406.  
 PR 02-FEB-1993; 93US-00013413.  
 PR 04-FEB-1994; 94US-00192061.  
 PR 04-FEB-1994; 94US-00192093.  
 PR 04-FEB-1994; 94US-00192102.  
 XX  
 XX (CENZ ) CENTOCOR INC.  
 PA (UYNV-) UNIV NEW YORK MEDICAL CENT.  
 PA  
 XX Siegel S, Knight D, Vilcek J, Ghayeb J, Le J, Daddona P;  
 PI WPI; 1998-051431/05.  
 XX  
 XX Treatment of rheumatoid arthritis - with chimeric antibody directed  
 PT against tumour necrosis factor.  
 XX  
 XX Claim 3; Col 97-100; 93pp; English.  
 PS  
 XX This sequence represents the human tumour necrosis factor (hTNF).  
 CC Epitopes of this sequence are recognised by the antibody used in the  
 CC method of the invention. The method of the invention is for treating  
 CC rheumatoid arthritis in a human, and comprises administering to the human  
 CC an effective TNF-inhibiting amount of an anti-TNF chimeric antibody (Ab),  
 CC where the anti-TNF chimeric Ab comprises a non-human variable region or a  
 CC TNF antigen binding portion of the variable region, and a human constant  
 CC region. The method can be used for in vitro, in situ and/or in vivo  
 CC diagnosis and/or treatment of animal cells, tissues or pathologies  
 CC associated with the presence of TNF. The Abs used in the method can also  
 CC be used for removing TNF from a solution or cells, inhibiting one or more  
 CC biological activities of TNF in vitro, in situ or in vitro. Such removal  
 CC can include treatment methods of the invention for alleviating symptoms  
 CC or pathologies involving TNF, such as bacterial, viral or parasitic  
 CC infections, chronic inflammatory diseases, autoimmune diseases,  
 CC malignancies and/or neurodegenerative diseases  
 XX  
 SQ Sequence 157 AA;  
 Query Match 96.4%; Score 777; DB 2; Length 157;  
 Best Local Similarity 96.2%; Pred. No. 1.8e-71;  
 Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDAPVAHVAVNPQAEQQLWLNRRNALLANGVELRDQLVVPSEGLYLIYS 60  
 DB 1 VRSSRTPSDKPVAHVAVNPQAEQQLWLNRRNALLANGVELRDQLVVPSEGLYLIYS 60  
 QY 61 QVLFSGGCGCPSTHVLTHHTISRIASVYQTRVNLSSAISPQRETPEGALPWYPIYL 120  
 DB 61 QVLFKGGCGCESTHVLTHHTISRIASVYQTKVNLSSAISKPCQRETPEGAEKWPYPIYL 120  
 QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
 DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGGVYFGIIAL 157

Search completed: May 5, 2006, 11:26:33  
Job time : 74.25 secs

---

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioacceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:42 ; Search time 18 Seconds  
(without alignments)  
839.224 Million cell updates/sec

Title: US-10-668-178-15  
Perfect score: 806  
Sequence: 1 VRSSRTSPDAPVAHVANP.....RPDYLDFASSGVYFGIIAL 157

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

PIR 80:\*  
1: Piri:\*  
2: Pir2:\*  
3: Pir3:\*  
4: Pir4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	777	96.4	233	1 OMHUN	tumor necrosis fac
2	770	95.5	233	2 S22052	tumor necrosis fac
3	710	88.1	233	2 S11688	tumor necrosis fac
4	695	86.2	234	1 JQ1344	tumor necrosis fac
5	675.5	83.8	232	1 S12606	tumor necrosis fac
6	637.5	79.1	234	1 A25451	tumor necrosis fac
7	632.5	78.5	235	1 OMMSN	tumor necrosis fac
8	629	78.0	185	2 S52715	tumor necrosis fac
9	629	78.0	233	1 S24642	tumor necrosis fac
10	627	77.8	234	1 JH0529	tumor necrosis fac
11	626.5	77.2	235	2 S15490	tumor necrosis fac
12	622.5	77.2	193	2 S06192	tumor necrosis fac
13	617.5	76.6	235	2 JU0029	tumor necrosis fac
14	257.5	31.9	197	1 JH0309	tumor necrosis fac
15	252	31.3	204	1 S24641	lymphotoxin - bovi
16	246.5	30.6	204	1 S17289	tumor necrosis fac
17	240	29.8	202	1 JN0869	tumor necrosis fac
18	238.5	29.6	202	1 B27303	tumor necrosis fac
19	214.5	26.6	205	1 OMHUX	lymphotoxin alpha
20	166	20.6	244	2 A46066	lymphotoxin beta -
21	165.5	20.5	278	2 A49266	fas ligand - rat
22	159.5	19.8	279	2 A53062	fas ligand - mouse
23	151	18.7	281	2 S138707	fas ligand - human
24	142	17.6	306	2 I49139	lymphotoxin-beta -
25	128	15.9	260	2 S21738	CD40 ligand - mous
26	121	15.0	261	2 S13476	CD40 ligand - huma
27	118	14.6	261	2 S53090	CD40 ligand - bovi
28	81.5	10.1	887	2 AD2009	hypothetical prote
29	78.5	9.7	724	2 A53371	glutamate-ammonia

#### ALIGNMENTS

##### RESULT 1

OMHUN

tumor necrosis factor alpha precursor [validated] - human  
N;Alternate names: cachectin; TNFA

C;Species: Homo sapiens (man)

C;Date: 28-Aug-1985 #sequence revision 28-Aug-1985 #text change 09-Jul-2004

C;Accession: A93585; S36153; A93351; A44189; B61478; I53311; S62610; I54522; A01646; B2

R;Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica,

Nucleic Acids Res. 13, 6361-6373, 1985

A;Title: Human lymphotoxin and tumor necrosis factor genes: structure, homology and chr

A;Reference number: A93585; MUID:86016093; PMID:2995927

A;Accession: A93585

A;Molecule type: DNA

A;Residues: 1-233 <NED>

A;Cross-references: UNIPROT:P01375; UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:93

R;Iris, F.J.M.; Bouguerele, L.; Frieur, S.; Caterina, D.; Primas, G.; Perrot, V.; Jurk

Nature Genet. 3, 137-145, 1993

A;Title: Dense Alu clustering and a potential new member of the NFkappaB family within

A;Reference number: S36152; MUID:93272029; PMID:8499947

A;Accession: S36153

A;Status: nucleic acid sequence not shown; translation not shown

A;Molecule type: DNA

A;Residues: 1-233 <IRI>

A;Cross-references: UNIPARC:UPI000000D745; EMBL:Z15026; NID:937211; PIDN:CAA7845.1; PI

A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1992

R;Pennica, D.; Nedwin, G.E.; Hayflick, J.S.; Seeburg, P.H.; Derynck, R.; Palladino, M.A

Nature 312, 724-729, 1984

A;Title: Human tumour necrosis factor: precursor structure, expression and homology to

A;Reference number: A93351; MUID:85086244; PMID:6392892

A;Accession: A93351

A;Molecule type: mRNA

A;Residues: 1-233 <PEN>

A;Cross-references: UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:937209; PIDN:CAA26

A;Note: this protein was isolated from the monocyte-like cell line HL-60 from a promyel

R;Wang, A.M.; Creasey, A.A.; Ladner, M.B.; Lin, L.S.; Strickler, J.; Van Arsdel, J.N.;

Science 228, 149-154, 1985

A;Title: Molecular cloning of the complementary DNA for human tumor necrosis factor.

A;Reference number: A44189; MUID:85142190; PMID:3956324

A;Accession: A44189

A;Molecule type: mRNA

A;Residues: 1-62, 'S', 64-233 <WAN>

A;Cross-references: UNIPARC:UPI000002FB8A; GB:M10988; NID:9339737; PIDN:AAA61198.1; PID

R;Fukuda, S.; Ando, S.; Sanou, O.; Tanai, M.; Masaki, N.; Nakamura, K.I.;

Lymphokine Res. 7, 175-185, 1988

A;Title: Simultaneous production of natural human tumor necrosis factor-alpha, -beta au

A;Reference number: A61478; MUID:88301617; PMID:2841543

A;Accession: B61478

A;Molecule type: protein

A;Residues: 83-102; 109-119; 121-128, 'X', 130-131; 142-144, 'X', 146, 'XXX', 150-152; 159-174; 11

A;Cross-references: UNIPARC:UPI00001735C7; UNIPARC:UPI00001735C8; UNIPARC:UPI00001735C9; UNIPARC:UPI00001735C5

R;Marmenout, A.; Franssen, L.; Tavernier, J.; Van Der Heyden, J.; Tizard, R.; Kawashima,

Eur. J. Biochem. 152, 515-522, 1985



A:Reference number: S18965  
A:Accession: S18965  
A:Molecule type: mRNA  
A:Residues: 1-232 <CHO>  
A:Cross-references: UNIPARC:UPI00001370C6; EMBL:X57321; NID:g2137; PIDN:CAA40591.1; PID  
R:Pauli, U.; Beutler, B.; Peterhans, E.  
Gene 81, 185-191, 1989  
A>Title: Porcine tumor necrosis factor alpha: Cloning with the polymerase chain reaction  
A:Reference number: I46659; MUID:90034181; PMID:2478420  
A:Accession: I46659  
A>Status: preliminary; translated from GB/EMBL/DDBJ  
A:Molecule type: mRNA  
A:Residues: 44-232 <PAU>  
A:Cross-references: UNIPARC:UPI000016CSF7; GB:M29079; NID:g164694; PIDN:AAA31128.1; PID  
C:Genetics:  
C:Introns: 62/3; 78/1; 93/1  
C:Superfamily: tumor necrosis factor  
C:Keywords: cytokine; cytotoxin; glycoprotein; lipoprotein; lymphokine; macrophage; myr-  
F:1-77/Domain: propeptide #status predicted <PRO>  
F:78-232/Product: tumor necrosis factor alpha #status predicted <MAT>  
F:19-20/Binding site: myristate (Lys) (covalent) #status predicted  
F:81/Binding site: carboxydrate (Ser) (covalent) #status predicted  
F:144-176/Disulfide bonds: #status predicted

Query Match 83.8%; Score 675.5; DB 1; Length 232;  
Best Local Similarity 85.4%; Pred.No.2.4e-61;  
Matches 134; Conservative 10; Mismatches 12; Indels 1; Gaps 1;

QY 1 VRSSRTSDAPVAHVANPQAEGQLMNRDANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:  
77 LRSSQT-SDKPVAHVANVKAEGQLWQSGVANALLANGVKLKONQLAVPTDGLYLIYS 135  
QY 61 QVLFGQGCPSTHLLTHTTISRIVSYQTRVNLLSAISPCORETEGAEALPWYEPIYL 120  
DB :|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:  
136 QVLFPGQGPCSTNVFLTHTTISRIVSYQTKVNLLSAIKSPCORETEGAEAKPWYEPIYL 195  
QY 121 GGVFQLETGRDLRSABINPDYLDFAESGGVYFGIIAL 157  
DB 196 GGVFQLEKDDRLSABINLPDYLDFAESGGVYFGIIAL 232

RESULT 6  
A25451  
tumor necrosis factor alpha precursor - rabbit  
N:Alternate names: cachectin; TNF alpha  
C:Species: Oryctolagus cuniculus (domestic rabbit)  
C>Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text\_change 09-Jul-2004  
C:Accession: A25454; A25451; J50727  
R:Ito, H.; Yamamoto, S.; Kuroda, S.; Sakamoto, H.; Kajihara, J.; Kiyota, T.; Hayashi, H.  
DNA 5, 149-156, 1986  
A>Title: Molecular cloning and expression in Escherichia coli of the cDNA coding for rai-  
A:Reference number: A25454; MUID:86219711; PMID:3519137  
A:Accession: A25454  
A:Molecule type: mRNA  
A:Residues: 1-234 <ITO>  
A:Cross-references: UNIPROT:P04924; UNIPARC:UPI000016CS2; GB:M12845; NID:g165759; PIDN  
R:Ito, H.; Shirai, T.; Yamamoto, S.; Akira, M.; Kawahara, S.; Todd, C.W.; Wallace, R.B.  
DNA 5, 157-165, 1986  
A>Title: Molecular cloning of the gene encoding rabbit tumor necrosis factor.  
A:Reference number: A25451; MUID:86219712; PMID:3519138  
A:Accession: A25451  
A:Molecule type: DNA  
A:Residues: 1-234 <ITO>  
A:Cross-references: UNIPARC:UPI000016CS2  
A>Note: this sequence differs from that shown in having a Gln inserted between residues  
R:Shakhov, A.N.; Kuprash, D.V.; Azizov, M.M.; Jongeneel, C.V.; Nedospasov, S.A.  
Gene 95, 215-221, 1990  
A>Title: Structural analysis of the rabbit TNF locus, containing the genes encoding TNF  
A:Reference number: JH0309; MUID:91065534; PMID:2249779  
A:Accession: J50727  
A>Status: nucleic acid sequence not shown; translation not shown  
A:Molecule type: DNA  
A:Residues: 1-62, 'Q', 63-234 <SHA>

A:Cross-references: UNIPARC:UPI00001370C7; GB:M60340; GB:M35326; NID:g165754; PIDN:AAA31  
C:Genetics: 62/3; 80/1; 96/1  
A:Introns: 62/3; 80/1; 96/1  
C:Superfamily: tumor necrosis factor  
C:Keywords: cytokine; cyclooxin; glycoprotein; lipoprotein; lymphokine; macrophage; memb  
F:1-81/Domain: propeptide #status predicted <PRO>  
F:82-234/Product: tumor necrosis factor #status predicted <MAT>  
F:19,20/Binding site: myristate (Lys) (covalent) #status predicted  
F:83/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:147-178/Diulfide bonds: #status predicted

Query Match 79.1%; Score 637.5; DB 1; Length 234;  
Best Local Similarity 78.3%; Pred. No. 1.9e-57;  
Matches 123; Conservative 16; Mismatches 17; Indels 1; Gaps 1;

QY 1 VRSSRTPSDPAVHVANPQAEQQLQWLRNALLANGVELRDNLQVPSGGLYLYS 60  
:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||  
79 LRSASRALSDKPLAHVAVNPQVEQLQWLSQRANALLANGMKLTDNLQVVPADGLYLYS 138

DB 61 QVLFSGQGPCSTHVLTHTRISIAVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 120  
:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||  
139 QVLFSGQGCGRS-YVLLTHTVSRFAVSYPNKVNLLSAIKSPCHRETPEEAEPMAWYEPIYL 197

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGOVYFGIAL 157  
:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||  
198 GGVFQLEKGRLSTEVNPEYLDLAEAGQVYFGIAL 234

RESULT 7  
OWNSN  
tumor necrosis factor alpha precursor - mouse  
N:Alternate names: cachectin; TNF alpha  
C:Species: Mus musculus (house mouse)  
C>Date: 31-Mar-1988 #sequence revision 31-Mar-1988 #text change 09-Jul-2004  
C:Accession: A22908; S03791; A27303; A25164; A23127; A34251; I59058; A36696  
R:Shirai, T.; Shimizu, N.; Shiojiri, S.; Horiguchi, S.; Ito, H.  
DNA 7, 193-201, 1988  
A:Title: Cloning and expression in Escherichia coli of the gene for mouse tumor necrosis  
A:Reference number: A22908; MUID:88224564; PMID:2836146  
A:Accession: A22908  
A:Molecule type: DNA  
A:Residues: 1-235 <SHI>  
A:Cross-references: UNIPROT:P06804; UNIPARC:UPI0000022334; GB:M20155  
R:Shakhov, A.N.; Nedospasov, S.A.  
B:Coorg. Khim. 13, 701-705, 1987  
A:Title: Molecular cloning of the genes coding for tumor necrosis factors: complete nucl  
A:Reference number: S03791; MUID:87298639; PMID:3040015  
A:Accession: S03791  
A:Molecule type: DNA  
A:Residues: 1-235 <SHA>  
A:Cross-references: UNIPARC:UPI0000022334; GB:M38296; NID:g202086; PIDN:AAA40459.1; PID:  
A>Note: article in Russian with English abstract  
R:Semion, D.; Kawashima, E.; Jongeneel, C.V.; Shakhov, A.N.; Nedospasov, S.A.  
Nucleic Acids Res. 15, 9083-9084, 1987  
A:Title: Nucleotide sequence of the murine TNF locus, including the TNF-alpha-(tumor nec  
A:Reference number: A93679; MUID:88067722; PMID:3684584  
A:Accession: A27303  
A:Molecule type: DNA  
A:Residues: 1-235 <SEM>  
A:Cross-references: UNIPARC:UPI0000022334; GB:Y00467; NID:g54830; PIDN:CAA68530.1; PID:g  
R:Pennica, D.; Hayflick, J.S.; Bringham, T.S.; Palladino, M.A.; Goeddel, D.V.  
Proc. Natl. Acad. Sci. U.S.A. 82, 6060-6064, 1985  
A:Title: Cloning and expression in Escherichia coli of the cDNA for murine tumor necrosi  
A:Reference number: A25164; MUID:85298296; PMID:3898078  
A:Accession: A25164  
A:Molecule type: mRNA  
A:Residues: 1-235 <PEN>  
A:Cross-references: UNIPARC:UPI0000022334; GB:M11731; NID:g202084; PIDN:AAA40458.1; PID:  
R:Fransen, L.; Muller, R.; Marmonou, A.; Tavernier, J.; van der Heyden, J.; Kawashima,  
Nucleic Acids Res. 13, 4417-4429, 1985  
A:Title: Molecular cloning of mouse tumour necrosis factor cDNA and its eukaryotic expre  
A:Reference number: A23127; MUID:85242112; PMID:2989794  
A:Accession: A23127

A:Molecule type: mRNA  
A:Residues: 1-235 <FRA>  
A:Cross-references: UNIPARC:UPI0000022334; GB:X02611; NID:g54844; PIDN:CAA26457.1; PID:g  
J:Csesh, K.; Beutler, B.  
J. Biol. Chem. 264, 16256-16260, 1989  
A:Title: Alternative cleavage of the cachectin/tumor necrosis factor propeptide results  
A:Reference number: A34251; MUID:89380231; PMID:2777790  
A:Accession: A34251  
A:Molecule type: protein  
A:Residues: 70-87 <CSB>  
A:Cross-references: UNIPARC:UPI00001735CF  
R:Caput, D.; Beutler, B.; Hartog, K.; Thayer, R.; Brown-Shimer, S.L.; Cerami, A.  
Proc. Natl. Acad. Sci. U.S.A. 83, 1670-1674, 1986  
A:Title: Identification of a common nucleotide sequence in the 3'-untranslated region of  
A:Reference number: I59058; MUID:86149365; PMID:2419912  
A:Accession: I59058  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: mRNA  
A:Residues: 1-230 'R', 232-235 <RES>  
A:Cross-references: UNIPARC:UPI000016D086; GB:M13049; NID:g202082; PIDN:AAA40457.1; PID:  
R:Sherry, B.; Jue, D.M.; Zentella, A.; Cerami, A.  
Biochem. Biophys. Res. Commun. 173, 1072-1078, 1990  
A:Title: Characterization of high molecular weight glycosylated forms of murine tumor ne  
A:Reference number: A36696; MUID:91097531; PMID:2268312  
A:Accession: A36696  
A:Molecule type: protein  
A:Residues: 80-85, 'X', 87-99 <SHB>  
A:Cross-references: UNIPARC:UPI00001735D0  
C:Genetics:  
A:Introns: 62/3; 81/1; 97/1  
A>Note: the first intron occurs in the 5'-untranslated region  
C:Superfamily: tumor necrosis factor  
C:Keywords: cytokine; cyclooxin; glycoprotein; lipoprotein; lymphokine; macrophage; mem  
F:80-235/Product: tumor necrosis factor #status experimental <MAT>  
F:20/Binding site: myristate (Lys) (covalent) #status predicted  
F:84/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:86/Binding site: carbohydrate (Asn) (covalent) #status predicted  
F:148-179/Diulfide bonds: #status predicted

Query Match 78.5%; Score 632.5; DB 1; Length 235;  
Best Local Similarity 75.2%; Pred. No. 6.1e-57;  
Matches 118; Conservative 21; Mismatches 17; Indels 1; Gaps 1;

QY 1 VRSSRTPSDPAVHVANPQAEQQLQWLRNALLANGVELRDNLQVPSGGLYLYS 60  
:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||  
80 LRSSQNSDRKPAHVAVNQHVEQLQWLSQRANALLANGMDLKNQVVPADGLYLYS 139

QY 61 QVLFSGQGPCSTHVLTHTRISIAVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 120  
:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||  
140 QVLFKGQCCPD-YVLLTHTVSRFAISYQEKVNLLSAVSPCKDTPGEALKPWEPIYL 198

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGOVYFGIAL 157  
:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||  
199 GGVFQLEKGDLSAEVNLPKYLDFAESGOVYFGIAL 235

RESULT 8  
S52715  
tumor necrosis factor alpha precursor - bovine (fragment)  
C:Species: Bos primigenius taurus (cattle)  
C>Date: 19-May-1995 #sequence\_revision 21-Jul-1995 #text\_change 04-Feb-2000  
C:Accession: S52715  
R:Wenters, B.; Gaidulis, L.  
Submitted to the EMBL Data Library, March 1995  
A:Description: Cloning and sequence analysis of cDNAs encoding bovine CD40 ligand and b  
A:Reference number: S52715  
A:Accession: S52715  
A:Status: preliminary  
A:Molecule type: mRNA  
A:Residues: 1-185 <MER>  
A:Cross-references: UNIPARC:UPI000016C282; EMBL:Z48808; NID:g7555701; PIDN:CAA88743.1; PI  
C:Superfamily: tumor necrosis factor  
C:Keywords: glycoprotein









Search completed: May 5, 2006, 11:27:51  
Job time : 19 secs

**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw.model

Run on: May 5, 2006, 11:21:53 ; Search time 53.5 Seconds  
(without alignments)  
2070.429 Million cell updates/sec

Title: US-10-668-178-15

Perfect score: 806

Sequence: 1 VRSSRTSPDAPVAHVANP.....RPDYLDFAESGVYFGIAL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Uniprot 05.80.\*

1: uniprot\_sprot.\*

2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	777	96.4	233	1	TNFA_HUMAN
2	777	96.4	233	2	Q5STB3_HUMAN
3	770	95.5	233	1	TNFA_PAPSP
4	768	95.3	232	1	TNFA_PANTR
5	759	94.2	233	1	TNFA_MACMU
6	756	93.8	233	1	TNFA_MACFA
7	755	93.7	233	1	TNFA_PAPHU
8	752	93.3	233	1	TNFA_PAPAN
9	742	92.1	149	2	Q97543_AOTNA
10	736	91.3	233	1	TNFA_CANFA
11	729	90.4	233	1	TNFA_FELCA
12	704	87.3	233	1	TNFA_SAIISC
13	695	86.2	234	1	TNFA_HORSE
14	693	86.0	149	2	Q97538_AOTVO
15	693	86.0	149	2	Q97TG8_AOTNI
16	689	85.5	217	2	Q9BEG0_CYCDI
17	685	85.0	233	1	Q9BEG1_BRATR
18	677	84.0	233	1	TNFA_DELLE
19	675.5	83.8	232	1	TNFA_PIG
20	659	81.8	233	1	TNFA_TURTR
21	650	80.6	217	2	Q9BEF4_CABUN
22	640	79.4	138	2	Q9TGT7_AOTLE
23	639	79.3	234	1	TNFA_CAPHI
24	637.5	79.1	235	1	TNFA_RABIT
25	636	78.9	234	2	Q53ZM5_CAPHI
26	635.5	78.8	234	1	TNFA_CAVPO
27	632.5	78.5	235	1	TNFA_MOUSE
28	631	78.3	234	2	Q539C2_TUPTA
29	630	78.2	216	2	Q9BEC4_TALEU
30	630	78.2	229	1	TNFA_CEREL
31	629	78.0	233	1	TNFA_BOVIN

32	629	78.0	233	1	TNFA_BUBBU	P59693 bubalus bub
33	629	78.0	234	1	TNFA_BOSIN	P59684 bos indicus
34	627	77.8	234	1	TNFA_SHEEP	P23383 ovis aries
35	626.5	77.7	235	1	TNFA_PERLE	P36939 peromyscus
36	620.5	77.0	232	2	Q80XA4_PERMA	Q80XA4 peromyscus
37	620.5	77.0	235	2	Q5W9H9_MERUN	Q5W9H9 meriones un
38	617.5	76.6	235	1	TNFA_RAT	P16599 rattus norv
39	617.5	76.6	235	2	Q6BE11_RAT	Q6BE11 rattus norv
40	615	76.3	233	1	TNFA_CAMBA	Q75N23 camelus bac
41	615	76.3	233	1	TNFA_LAMGL	P59694 lama glama
42	609.5	75.6	156	2	Q91ZL4_SIGHI	Q91ZL4 sigmodon hi
43	605.5	75.1	216	2	Q9BEC9_OCHPR	Q9BEC9 ochotona pr
44	602.5	74.8	233	1	TNFA_MARMO	Q35734 marmota mon
45	602.5	74.8	233	2	Q6X658_MARMO	Q6X658 marmota mon

## ALIGNMENTS

### RESULT 1

TNFA\_HUMAN STANDARD; PRT; 233 AA.  
AC P01375; Q43647; Q9P1Q2; Q9UIV3;  
DT 21-JUL-1986 (Rel. 01, Created)  
DT 21-JUL-1986 (Rel. 01, Last sequence update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
GN Names:TNF; Synonyms:TNFA, TNFSP2;  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=87217060; PubMed=3555974;  
RA Nedospasov S.A., Shakhov A.N., Turetskaya R.L., Mett V.A.,  
RA Azizov M.M., Georgiev G.P., Korobko V.G., Dobrynin V.N.,  
RA Filippov S.A., Shatrov N.S., Boldyreva E.P., Chuvpilo S.A.,  
RA Chumakov A.M., Shingarova L.N., Ovchinnikov Y.A.;  
RT "Tandem arrangement of genes coding for tumor necrosis factor (TNF-  
RT alpha) and lymphotoxin (TNF-beta) in the human genome.";  
RT Cold Spring Harb. Symp. Quant. Biol. 51:611-624(1986).  
RN [2]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=85086244; PubMed=6392892;  
RA Pennica D., Nedwin G.E., Hayflick J.S., Seeburg P.H., Derynck R.,  
RA Palladino M.A., Kohr W.J., Aggarwal B.B., Goeddel D.V.;  
RT "Human tumour necrosis factor: precursor structure, expression and  
RT homology to lymphotoxin.";  
RN Nature 312:724-729(1984).  
RN [3]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=85137898; PubMed=3883195;  
RA Shirai T., Yamaguchi H., Ito H., Todd C.W., Wallace R.B.;  
RT "Cloning and expression in Escherichia coli of the gene for human  
RT tumour necrosis factor.";  
RN Nature 313:803-806(1985).  
RN [4]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=86016093; PubMed=2995927;  
RA Nedwin G.E., Naylor S.L., Sakaguchi A.Y., Smith D.H.,  
RA Jarrett-Nedwin J., Pennica D., Goeddel D.V., Gray P.W.;  
RT "Human lymphotoxin, a tumor necrosis factor gene: structure,  
RT homology and chromosomal localization.";  
RN Nucleic Acids Res. 13:6361-6373(1985).  
RN [5]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=85142190; PubMed=3856324;  
RA Wang A.M., Creasey A.A., Ladner M.B., Lin L.S., Strickler J.,  
RA van Arsdel J.N., Yamamoto R., Mark D.F.;

- RT "Molecular cloning of the complementary DNA for human tumor necrosis factor.";
- RL Science 228:149-154(1985).
- RN [16]
- RP NUCLEOTIDE SEQUENCE.
- RX MEDLINE=86030296; PubMed=3932069;
- RA Marmenout A., Fransen L., Tavernier J., van der Heyden J., Tizard R., Kawashima E., Shaw A., Johnson M.J., Semon D., Mueller R., Ruysschaert M.R., van Vliet A., Fiers W.;
- RA "Molecular cloning and expression of human tumor necrosis factor and comparison with mouse tumor necrosis factor.";
- RT Eur. J. Biochem. 152:515-522(1985).
- RN [7]
- RP NUCLEOTIDE SEQUENCE.
- RX MEDLINE=93272029; PubMed=8499947;
- RA Iris F.J.M., Bougueleret L., Prieur S., Caterina D., Primas G., Perrot V., Jurka J., Rodriguez-Tone P., Claverie J.-M., Dausset J., Cohen D.;
- RA "Dense Alu clustering and a potential new member of the NF kappa B family within a 90 kilobase HLA class III segment.";
- RT Nat. Genet. 3:137-145(1993).
- RL [8]
- RP NUCLEOTIDE SEQUENCE.
- RX MEDLINE=99218514; PubMed=10202016;
- RA Neville M.J., Campbell R.D.;
- RA "A new member of the Ig superfamily and a V-ATPase G subunit are among the predicted products of novel genes close to the TNF locus in the human MHC.";
- RT J. Immunol. 162:4745-4754(1999).
- RL [9]
- RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
- RX PubMed=14656967; DOI=10.1101/gr.1736803;
- RA Xie T., Rowen L., Aguado B., Ahearn M.E., Madan A., Qin S., Campbell R.D., Hood L.;
- RA "Analysis of the gene-dense major histocompatibility complex class III region and its comparison to mouse.";
- RT Genome Res. 13:2621-2636(2003).
- RL [10]
- RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
- RA Shiina S., Tamiya G., Oka A., Inoko H.;
- RA "Homo sapiens 2,229,817bp genomic DNA of 6p21.3 HLA class I region.";
- RL Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.
- RN [11]
- RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
- RA Shiina I., Ota M., Katsuyama Y., Hashimoto N., Inoko H.;
- RA "Genome diversity in HLA: a new strategy for detection of genetic polymorphisms in expressed genes within the HLA class III and class I regions.";
- RL Submitted (JUL-2002) to the EMBL/GenBank/DBJ databases.
- RN [12]
- RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].
- RA Rieder M.J., Carrington D.P., Chung M.-W., Lee K.L., Poel C.L., Yi Q., Nickerson D.A.;
- RA "SeattleSNPs, NHLBI HL6682 program for genomic applications, UN-FHCR, Seattle, WA (URL: <http://pga.gs.washington.edu>).";
- RT Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.
- RL [13]
- RP NUCLEOTIDE SEQUENCE [GENOMIC DNA], AND VARIANT LEU-84.
- RA Rieder M.J., Livingston R.J., Daniels M.R., Montoya M.A., Chung M.-W., Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D., Schackwitz W.S., Sherwood J.K., Wittrak L.A., Nickerson D.A.;
- RA "NIHNS-SNPs, environmental genome project, NIHNS ES15478, Department of Genome Sciences, Seattle, WA (URL: <http://egp.gs.washington.edu>).";
- RT Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.
- RL [14]
- RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
- RC TISSUE=Blood;
- RX MEDLINE=23288257; PubMed=12477932; DOI=10.1073/pnas.242603899;
- RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Schuler G.D., Klausner R.D., Collins F.S., Wagner L., Shenmen C.W., Bhat N.K., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
- RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Brownstein M.J., Usdin T.B., Toehiyuki S., Carninci P., Prange C., Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullihy S.J., Bosak S.A., McSwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Whiting M., Madan A., Kettelman M., Madan A., Rodrigues S., Sanchez A., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalish D.E., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
- RA "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences.";
- RT Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
- RL [15]
- RP NUCLEOTIDE SEQUENCE OF 77-233.
- RA Jang J.S., Kim B.E.;
- RA Submitted (JAN-1998) to the EMBL/GenBank/DBJ databases.
- RL [16]
- RP NUCLEOTIDE SEQUENCE OF 84-214.
- RA TISSUE=Prostatic carcinoma;
- RC Shao C., Yan W., Zhu F., Yue W., Chai Y., Zhao Z., Wang C.;
- RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
- RN [17]
- RP PHOSPHORYLATION (MEMBRANE FORM).
- RX MEDLINE=96170872; PubMed=8597870;
- RA Pocsik E., Duda E., Wallach D.;
- RA "Phosphorylation of the 26 kDa TNF precursor in monocytic cells and in transfected HeLa cells.";
- RT J. Inflamm. 45:152-160(1995).
- RL [18]
- RP PHOSPHORYLATION BY CK1, AND DEPHOSPHORYLATION.
- RX MEDLINE=9221647; PubMed=10205166; DOI=10.1093/emboj/18.8.2119;
- RA Watts A.D., Hunt N.H., Wanigasekara Y., Bloomfield G., Wallach D., Roufogalis B.D., Chaudhri G.;
- RA "A casein kinase I motif present in the cytoplasmic domain of members of the tumour necrosis factor ligand family is implicated in 'reverse signalling'.";
- RT EMBO J. 18:2119-2126(1999).
- RL [19]
- RP MUTAGENESIS.
- RX MEDLINE=91184128; PubMed=2009860;
- RA Octade X.V., Tavernier J., Prange T., Fiers W.;
- RA "Localization of the active site of human tumour necrosis factor (hTNF) by mutational analysis.";
- RT EMBO J. 10:827-836(1991).
- RL [20]
- RP MYRISTOYLATION.
- RX MEDLINE=93018820; PubMed=1402651; DOI=10.1084/jem.176.4.1053;
- RA Stevenson P.T., Bursten S.L., Locksley R.M., Lovett D.H.;
- RA "Myristyl acylation of the tumor necrosis factor alpha precursor on specific lysine residues.";
- RT J. Exp. Med. 176:1053-1062(1992).
- RL [21]
- RP CLEAVAGE BY ADAM17.
- RX MEDLINE=97186575; PubMed=9034191;
- RA Moss M.L., Jin S.-L.C., Milla M.E., Burkhardt W., Carter H.L., Chen W.-J., Clay W.C., Didebury J.R., Haessler D., Hoffman C.R., Kost T.A., Lambert M.H., Leesnitzer M.A., McCauley P., McGeehan G., Mitchell J., Moyer M., Pabel G., Rocque W., Overton L.K., Schoenen F., Seaton T., Su J.-L., Warner J., Willard D., Becherer J.D.;
- RA "Cloning of a disintegrin metalloproteinase that processes precursor tumour-necrosis factor-alpha.";
- RT Nature 385:733-736(1997).
- RL [22]
- RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
- RX MEDLINE=89159409; PubMed=2922050; DOI=10.1038/338225a0;
- RA Jones E.Y., Stuart D.I., Walker N.P.;
- RA "Structure of tumour necrosis factor.";
- RT Nature 338:225-228(1989).
- RL [23]
- RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).



SQ SEQUENCE 233 AA; 25557 MW; 455360B48DC74173 CRC64;  
Query Match 95.5%; Score 770; DB 1; Length 233;  
Best Local Similarity 95.5%; Pred. No. 2.7e-70;  
Matches 150; Conservative 1; Mismatches 6; Indels 0; Gaps 0;  
QY 1 VRSSRTSPDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
DB 77 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 136  
QY 61 QVLFSGGCPSTHLLTHTTISRIVSYQTVNLLSAISPCQRETPGAEALPWYEPYIL 120  
DB 137 QVLFSGGCPSTHLLTHTTISRIVSYQTVNLLSAISPCQRETPGAEALPWYEPYIL 196  
QY 121 GGVFQLEGTDRLSAEINRPDYLDFAESGQVYFGIAL 157  
DB 197 GGVFQLEGTDRLSAEINRPDYLDFAESGQVYFGIAL 233

## RESULT 4

TNFA\_PANTR STANDARD; PRT; 232 AA.  
AC Q8HZD9;  
DT 10-OCT-2003 (Rel. 42, Created)  
DT 10-OCT-2003 (Rel. 42, Last sequence update)  
DT 13-SEP-2005 (Rel. 48, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
GN Name=TNF; Synonyms=TNFA, TNF2;  
OS Pan troglodytes (Chimpanzee).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Pan.  
OX NCBI\_TaxID=9598;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=22381002; PubMed=12491009;  
DOI=10.1034/j.1600-065X.2002.19008.x;  
RA Kuleki J.K., Shiina T., Anzai T., Kohara S., Inoko H.;  
"Comparative genomic analysis of the MHC: the evolution of class I  
RT duplication blocks, diversity and complexity from shark to man";  
RL Immunol. Rev. 190:95-122(2002).  
RN [2]  
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].  
RX MEDLINE=22709134; PubMed=12799463; DOI=10.1073/pnas.1230533100;  
Anzai T., Shiina T., Kimura N., Yanagiya K., Kohara S., Shigenari A.,  
Yamagata T., Kuleki J.K., Naruse T.K., Fujimori Y., Fukuzumi Y.,  
Yamazaki M., Tashiro H., Imamoto C., Umehara Y., Imanishi T.,  
Meyer A., Ikeo K., Gotohori T., Bahram S., Inoko H.;  
RT "Comparative sequencing of human and chimpanzee MHC class I regions  
RT unveils insertions/deletions as the major path to genomic  
RT divergence.";  
RL Proc. Natl. Acad. Sci. U.S.A. 100:7708-7713(2003).  
RN [3]  
RP NUCLEOTIDE SEQUENCE OF 33-186.  
RA O'Huigin C., Tichy H., Klein J.;  
RT "Molecular evolution in higher primates; gene specific and organism  
RT specific characteristics.";  
RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.  
CC -1- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
CC induce cell death of certain tumor cell lines. It is potent  
CC pyrogen causing fever by direct action or by stimulation of  
CC interleukin 1 secretion and is implicated in the induction of  
CC cachexia. Under certain conditions it can stimulate cell  
CC proliferation and induce cell differentiation (By similarity).  
CC -1- SUBUNIT: Homotrimer (By similarity).  
CC -1- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
CC extracellular soluble form (By similarity).  
CC -1- PTM: The soluble form derives from the membrane form by  
CC proteolytic processing (By similarity).  
CC -1- PTM: The membrane form, but not the soluble form, is

phosphorylated on serine residues. Dephosphorylation of the  
membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
similarity).  
CC -1- SIMILARITY: Belongs to the tumor necrosis factor family.  
CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
CC EMBL; AB054536; BAB83882.1; -; Genomic DNA.  
CC EMBL; BA000041; BAC78157.1; -; Genomic DNA.  
CC EMBL; AV091964; AAM76582.1; -; Genomic DNA.  
CC HSPF; P01375; 4TSV.  
CC SMR; Q8HZD9; 81-232.  
CC InterPro; IPR006053; TNF\_alpha.  
CC InterPro; IPR002959; TNF\_alpha.  
CC InterPro; IPR006052; TNF\_family.  
CC InterPro; IPR003636; TNF\_subf.  
CC PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
CC Pfam; PF00229; TNF; 1.  
CC PRINTS; PR01234; TNECROSISFCT.  
CC PRINTS; PR01235; TNFALPHA.  
CC ProDom; PD02012; TNF\_subf; 1.  
CC PROSITE; PS00251; TNF\_1; 1.  
CC PROSITE; PS00049; TNF\_2; 1.  
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
FT CHAIN 1 232  
FT Tumor necrosis factor, membrane form (By  
FT similarity).  
FT CHAIN 77 232  
FT Tumor necrosis factor, soluble form (By  
FT similarity).  
FT TOPO\_DOM 1 34  
FT TRANSMEM 35 57  
FT TOPO\_DOM 58 232  
FT SITE 76 77  
FT MOD\_RES 2 2  
FT DISULFID 144 176  
FT CONFLICT 77 77  
FT G -> VR (in Ref. 3).  
SQ SEQUENCE 232 AA; 25446 MW; E4D71B19C6AED03 CRC64;  
Query Match 95.3%; Score 768; DB 1; Length 232;  
Best Local Similarity 96.1%; Pred. No. 4.4e-70;  
Matches 149; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 3 SSSRTSPDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYSQV 62  
DB 78 SSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYSQV 137  
QY 63 LFSGGGCPSTHLLTHTTISRIVSYQTVNLLSAISPCQRETPGAEALPWYEPYILGG 122  
DB 138 LFSGGGCPSTHLLTHTTISRIVSYQTVNLLSAISPCQRETPGAEALPWYEPYILGG 197  
QY 123 VFQLEGTDRLSAEINRPDYLDFAESGQVYFGIAL 157  
DB 198 VFQLEGTDRLSAEINRPDYLDFAESGQVYFGIAL 232  
RESULT 5  
TNFA\_MACVU STANDARD; PRT; 233 AA.  
ID TNFA\_MACVU  
AC P48094; Q5TM11; Q8HZD6;  
DT 01-FEB-1996 (Rel. 33, Created)  
DT 01-FEB-1996 (Rel. 33, Last sequence update)  
DT 13-SEP-2005 (Rel. 48, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
DE Name=TNF; Synonyms=TNFA, TNF2;  
GN Macaca mulatta (Rhesus macaque).  
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Eukaryota; Eutheria; Euarchontoglires; Primates; Catarrhini;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;

```

OC Cercopithecidae; Cercopithecinae; Macaca.
OX NCBI_TaxID=9544;
RN [1]
RP NUCLEOTIDE SEQUENCE [MRNA].
RX MEDLINE=96003435; PubMed=7561102;
RA Villinger F.J., Brar S.S., Wayne A.E., Chikkala N., Ansari A.A.;
RT "Comparative sequence analysis of cytokine genes from human and
RL nonhuman primates.";
RN J. Immunol. 155:3946-3954 (1995).
RN [2]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX PubMed=15269276; DOI=10.1093/molbev/msh216;
RA Kulski J.K., Anzai T., Shihina T., Inoko H.;
RT "Rhesus macaque class I duplicon structures, organization, and
RT evolution within the alpha block of the major histocompatibility
RT complex.";
RL Mol. Biol. Evol. 21:2079-2091 (2004).
RN [3]
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA] OF 33-187.
RA O'Huigin C., Tichy H., Klein J.;
RT "Molecular evolution in higher primates; gene specific and organism
RT specific characteristics.";
RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia, under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation.
CC -!- SUBUNIT: Homotrimer (By similarity).
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -!- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -!- PTM: The membrane form, but not the soluble form, is
CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity). Belongs to the tumor necrosis factor family.
CC -----
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC -----
DR EMBL; U19850; AAA86712.1; -; mRNA.
DR EMBL; AB128049; BAD69724.1; -; Genomic DNA.
DR EMBL; AY091967; AAM76585.1; -; Genomic DNA.
DR HSSP; P01375; 4TSV.
DR SMR; P48094; 82-233.
DR InterPro; IPR006053; TNF_alpha.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS0049; TNF_2; 1.
DR Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 233 Tumor necrosis factor, membrane form.
FT CHAIN 77 233 Tumor necrosis factor, soluble form.
FT TOPO_DOM 1 35 Cytoplasmic (potential).
FT TRANSMEM 36 56 Signal-anchor for type II membrane
FT protein (potential).
FT TOPO_DOM 57 233 Extracellular (potential).
FT SITE 76 77 Cleavage (by ADAM17) (By similarity).
FT MOD_RES 2 2 Phosphoserine (by CK1) (By similarity).
FT -----
FT DISULFID 145 177 By similarity.
SQ SEQUENCE 233 AA; 25630 MW; 9F6F85050595FDS9 CRC64;
Query Match 94.2%; Score 759; DB 1; Length 233;
Best Local Similarity 94.3%; Pred. No. 3.7e-69;
Matches 148; Conservative 1; Mismatches 8; Indels 0; Gaps 0;
QY 1 VRSSRTSPDAPVAHVANPQAGQLWLNRRANALLANGVELRDQLVVPSEGLYLIYS 60
DB 77 VRSSRTSPDAPVAHVANPQAGQLWLNRRANALLANGVELRDQLVVPSEGLYLIYS 136
QY 61 QVLFGSGQCPSTHVLTLTHISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYPIYL 120
DB 137 QVLFGSGQCPSTHVLTLTHISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYPIYL 196
QY 121 GGVFQLETGDRLSABINRPDYLDFAESGVYFGIALL 157
DB 197 GGVFQLETGDRLSABINRPDYLDFAESGVYFGIALL 233
RESULT 6
TNFA MACFA
ID TNFA MACFA STANDARD; PRT; 233 AA.
AC F79337;
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name=TNF; Synonyms=TNFA, TNFSF2;
OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC Cercopithecidae; Cercopithecinae; Macaca.
OX NCBI_TaxID=9541;
RN NUCLEOTIDE SEQUENCE [MRNA].
RC TISSUE=Lymphocyte;
RA Tatum M.;
RT "Molecular cloning and expression of cynomolgus monkey TNF-alpha.";
Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia, under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation.
CC -!- SUBUNIT: Homotrimer (By similarity).
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -!- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -!- PTM: The membrane form, but not the soluble form, is
CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity). Belongs to the tumor necrosis factor family.
CC -----
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC -----
DR EMBL; AB000513; BAA19131.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; P79337; 82-233.
DR InterPro; IPR006053; TNF_alpha.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS0049; TNF_2; 1.
DR Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 233 Tumor necrosis factor, membrane form.
FT CHAIN 77 233 Tumor necrosis factor, soluble form.
FT TOPO_DOM 1 35 Cytoplasmic (potential).
FT TRANSMEM 36 56 Signal-anchor for type II membrane
FT protein (potential).
FT TOPO_DOM 57 233 Extracellular (potential).
FT SITE 76 77 Cleavage (by ADAM17) (By similarity).
FT MOD_RES 2 2 Phosphoserine (by CK1) (By similarity).
FT -----

```

DR PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 DR Pfam; PF00229; TNF; 1.  
 DR PRINTS; PR01234; TNECROSISFCT.  
 DR ProDom; PD002012; TNF\_subf; 1.  
 DR SMART; SM00207; TNF; 1.  
 DR PROSITE; PS00251; TNF\_1; 1.  
 DR PROSITE; PS0049; TNF\_2; 1.  
 KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 FT CHAIN 1 233  
 FT TOPO\_DOM 77 233  
 FT TRANSMEM 36 56  
 FT TOPO\_DOM 57 233  
 FT SITE 76 77  
 FT MOD\_RES 2 2  
 FT DISULFID 145 177  
 SQ SEQUENCE 233 AA; 25558 MW; 6ABF2C3AB132C217 CRC64;  
 Query Match 93.8%; Score 756; DB 1; Length 233;  
 Best Local Similarity 93.6%; Pred. No. 7.4e-69;  
 Matches 147; Conservative 2; Mismatches 8; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 DB 77 VRSSRTPSDKPVAHVANPQAEQQLWLNRRANALLANGVELTDNLQVVPSEGLYLIYS 136  
 QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTRVNLSSAISPQORETPEGAEALPWYEPIYL 120  
 DB 137 QVLFKGQGCPSNHVLLTHTTISRIVSYQTKVNLSSAISPQORETPEGAEAKPWYEPIYL 196  
 QY 121 GGVFQLEKGRDLSAEINRPDYLDFAESGVYFGIIAL 157  
 DB 197 GGVFQLEKGRDLSAEINLPDYLDFAESGVYFGIIAL 233  
 RESULT 7  
 TNFA\_PAPAH STANDARD; PRT; 233 AA.  
 ID TNFA\_PAPAH  
 AC 077510;  
 DT 15-DEC-1998 (Rel. 37, Created)  
 DT 15-DEC-1998 (Rel. 37, Last sequence update)  
 DT 13-SEP-2005 (Rel. 48, Last annotation update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
 GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Papio hamadryas ursinus (Chacma baboon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;  
 OC Cercopithecoidea; Cercopithecinae; Papio.  
 OX NCBI\_TaxID=36229;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE [MRNA].  
 RX MEDLINE=98147379; PubMed=9488055; DOI=10.1016/S0161-5890(97)00124-7;  
 RA Haudek S.B., Redl H., Schleg G., Giroir B.P.;  
 RT "Complementary DNA (cDNA) sequence of baboon tumor necrosis factor  
 RT alpha.";  
 RL Mol. Immunol. 34:1041-1042(1997).  
 CC -1- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
 CC TNFRSF1B/TNFR2. It is mainly secreted by macrophages and can  
 CC induce cell death of certain tumor cell lines. It is potent  
 CC pyrogen causing fever by direct action or by stimulation of  
 CC interleukin 1 secretion and is implicated in the induction of  
 CC cachexia. Under certain conditions it can stimulate cell  
 CC proliferation and induce cell differentiation.  
 CC -1- SUBUNIT: Homotrimer (By similarity).  
 CC -1- SUBCELLULAR LOCATION: type II membrane protein. Also exists as an  
 CC extracellular soluble form (By similarity).  
 CC -1- PTM: The soluble form derives from the membrane form by  
 CC proteolytic processing (By similarity).  
 CC -1- PTM: The membrane form, but not the soluble form, is

CC phosphorylated on serine residues. Dephosphorylation of the  
 CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
 CC similarity).  
 CC -1- SIMILARITY: Belongs to the tumor necrosis factor family.  
 CC -----  
 CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
 CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
 CC the European Bioinformatics Institute. There are no restrictions on its  
 CC use as long as its content is in no way modified and this statement is not  
 CC removed.  
 CC -----  
 CC EMBL; AF019963; AAC31675.1; -; mRNA.  
 DR HSSP; P01375; 4TSV.  
 DR SMR; O77510; 82-233.  
 DR InterPro; IPR006053; TNF\_abc.  
 DR InterPro; IPR002959; TNF\_alpha.  
 DR InterPro; IPR006052; TNF family.  
 DR InterPro; IPR003636; TNF\_subf.  
 DR PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 DR Pfam; PF00229; TNF; 1.  
 DR PRINTS; PR01234; TNECROSISFCT.  
 DR PRINTS; PR01235; TNFALPHA.  
 DR ProDom; PD002012; TNF\_subf; 1.  
 DR SMART; SM00207; TNF; 1.  
 DR PROSITE; PS00251; TNF\_1; 1.  
 DR PROSITE; PS0049; TNF\_2; 1.  
 KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 FT CHAIN 1 233  
 FT TOPO\_DOM 77 233  
 FT TRANSMEM 36 56  
 FT TOPO\_DOM 57 233  
 FT SITE 76 77  
 FT MOD\_RES 2 2  
 FT DISULFID 145 177  
 SQ SEQUENCE 233 AA; 25658 MW; B940325058D4A03 CRC64;  
 Query Match 93.7%; Score 755; DB 1; Length 233;  
 Best Local Similarity 93.6%; Pred. No. 9.4e-69;  
 Matches 147; Conservative 1; Mismatches 9; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
 DB 77 VRSSRTPSDKPVAHVANPQAEQQLWLNRRANALLANGVELTDNLQVVPSEGLYLIYS 136  
 QY 61 QVLFSGQGCPSHTVLLTHTTISRIVSYQTRVNLSSAISPQORETPEGAEALPWYEPIYL 120  
 DB 137 QVLFKGQGCPSNHVLLTHTTISRIVSYQTKVNLSSAISPQORETPEGAEAKPWYEPIYL 196  
 QY 121 GGVFQLEKGRDLSAEINRPDYLDFAESGVYFGIIAL 157  
 DB 197 GGVFQLEKGRDLSAEINLPDYLDFAESGVYFGIIAL 233  
 RESULT 8  
 TNFA\_PAPAH STANDARD; PRT; 233 AA.  
 ID TNFA\_PAPAH  
 AC P59695;  
 DT 10-OCT-2003 (Rel. 42, Created)  
 DT 10-OCT-2003 (Rel. 42, Last sequence update)  
 DT 13-SEP-2005 (Rel. 48, Last annotation update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
 GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Papio anubis (Olive baboon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;  
 OC Cercopithecoidea; Cercopithecinae; Papio.  
 OX NCBI\_TaxID=9555;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.



RX MEDLINE=21383618; PubMed=11491535; DOI=10.1007/s002510100322;  
RA Villinger F.J., Bostik P., Wayne A.E., King C.L., Genain C.P.,  
RA Weiss W.R., Ansari A.A.;  
RT "Cloning, sequencing, and homology analysis of nonhuman primate  
RL Fas/Fas-ligand and co-stimulatory molecules.";  
RL Immunogenetics 53:315-328(2001).  
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can  
CC induce cell death of certain tumor cell lines. It is potent  
CC pyrogen causing fever by direct action or by stimulation of  
CC interleukin 1 secretion and is implicated in the induction of  
CC cachexia. Under certain conditions it can stimulate cell  
CC proliferation and induce cell differentiation (By similarity).  
CC -!- SUBUNIT: Homotrimer (By similarity).  
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
CC extracellular soluble form (By similarity).  
CC -!- PTM: The soluble form derives from the membrane form by  
CC proteolytic processing (By similarity).  
CC -!- PTM: The membrane form, but not the soluble form, is  
CC phosphorylated on serine residues. Dephosphorylation of the  
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
CC similarity).  
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.  
CC  
CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
CC  
CC EMBL; AV234222; AAC05335.1; -; mRNA.  
DR HSSP; P01375; 4TSV.  
DR SNR; P59695; 82-233.  
DR InterPro; IPR006053; TNF abc.  
DR InterPro; IPR002959; TNF alpha.  
DR InterPro; IPR006052; TNF family.  
DR InterPro; IPR003636; TNF subf.  
DR PANTHER; PTHR11471.SF4; TNF\_alpha; 1.  
DR Pfam; PF00229; TNF; 1.  
DR PRINTS; PR01234; TNECROSISFCT.  
DR PRINTS; PR01235; TNFALPHA.  
DR PRODOM; PD002012; TNF\_subf; 1.  
DR SMART; SM00207; TNF; 1.  
DR PROSITE; PS00251; TNF 1; 1.  
DR PROSITE; PS00049; TNF 2; 1.  
DR Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
KW CYTOKINE; PHOSPHORYLATION; SIGNAL-ANCHOR; TRANSMEMBRANE.  
FT CHAIN 1 233  
FT FT  
FT CHAIN 77 233  
FT FT  
FT CHAIN 1 34  
FT FT  
FT TRANSMEM 35 57  
FT FT  
FT TOPO\_DOM 58 233  
FT FT  
FT SITE\_ 76 77  
FT FT  
FT MOD\_RES 2 2  
FT FT  
FT DISULFID 145 177  
FT FT  
FT SEQUENCE 233 AA; 25736 MW; 0C477F9EB6CC9909 CRC64;  
Query Match 93.3%; Score 752; DB 1; Length 233;  
Best Local Similarity 93.6%; Pred. No. 1.9e-68;  
Matches 147; Conservative 1; Mismatches 9; Indels 0; Gaps 0;  
QY 1 VRSSRTPSPAPVAHVAVNPQAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 77 VRSSRTPSPDKPAHVAVNPQAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS.136  
QY 61 QVLFSGGCGCTHLLTHTTSRTAVSYQTRVNLSSAIPSCQRETPGEGALPWYEPYIL 120  
DB 137 QVLFKGGCGCSNHLVLLTHTTSRTAVSYQTRVNLSSAIPSCQRETPGEGALPWYEPYIL 196  
QY 121 GGVFQLBTGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

DB 197 GGVFQLEKGDRLSAEINLPDYLDFAESGQVYFGIIAL 233  
RESULT 9  
QY 097543 AOTNA PRELIMINARY; PRT; 149 AA.  
AC 097543;  
DT 01-MAY-1999 (TREMBLrel. 10, Created)  
DT 01-MAY-1999 (TREMBLrel. 10, Last sequence update)  
DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)  
DE Tumor necrosis factor alpha (Fragment).  
GN Name-TNF-alpha;  
OS Aotus nancymae (Ma's night monkey).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;  
OC Aotinae; Aotus.  
OX NCBI\_TaxID=37293;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;  
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,  
RA Murillo L.A., Patarroyo M.E.;  
RT "Identification, cloning, and sequencing of different cytokine genes  
RT in four species of owl monkey.";  
RL Immunogenetics 54:645-653(2002).  
DR EMBL; AF014513; AAC01539.1; -; mRNA.  
DR HSSP; P01375; 4TSV.  
DR SNR; 097543; 1-149.  
DR GO; GO:0016020; C-membrane; IEA.  
DR GO; GO:0005164; F-tumor necrosis factor receptor binding; IEA.  
DR GO; GO:0006955; P-immune response; IEA.  
DR InterPro; IPR006053; TNF abc.  
DR InterPro; IPR002959; TNF alpha.  
DR InterPro; IPR003636; TNF\_subf.  
DR Pfam; PF00229; TNF; 1.  
DR PRINTS; PR01234; TNECROSISFCT.  
DR PRINTS; PR01235; TNFALPHA.  
DR PRODOM; PD002012; TNF\_subf; 1.  
DR SMART; SM00207; TNF; 1.  
DR PROSITE; PS00251; TNF 1; 1.  
DR PROSITE; PS00049; TNF 2; 1.  
FT NON\_TER 1  
FT NON\_TER 149 149  
FT SEQUENCE 149 AA; 16466 MW; 3C2A6140778EFABA CRC64;  
Query Match 92.1%; Score 742; DB 2; Length 149;  
Best Local Similarity 96.0%; Pred. No. 1.2e-67;  
Matches 143; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 8 PSDAPVAHVAVNPQAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYSQVLFSGQ 67  
DB 1 PSDKPAHVAVNPQAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYSQVLFKQ 60  
QY 68 GCPSTHLLTHTTSRTAVSYQTRVNLSSAIPSCQRETPGEGALPWYEPYILGGVQLE 127  
DB 61 GCPSTHLLTHTTSRTAVSYQTRVNLSSAIPSCQRETPGEGALPWYEPYILGGVQLE 120  
QY 128 TGDRLSAEINRPDYLDFAESGQVYFGIIA 156  
DB 121 KGDRLSAEINRPDYLDFAESGQVYFGIIA 149  
RESULT 10  
ID TNFA\_CANFA STANDARD; PRT; 233 AA.  
AC PS1742; Q28339;  
DT 01-OCT-1996 (Rel. 34, Created)  
DT 01-OCT-1996 (Rel. 34, Last sequence update)  
DT 13-SEP-2005 (Rel. 48, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].

GN Name=TNF; Synonyms=TNFA, TNFSF2;  
OS Canis familiaris (Dog).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;  
OC Canis.  
OX NCBI\_TaxID=9615;  
RN [1]\_TaxID=9615;  
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].  
RA Fiers W.;  
RT "Tumour necrosis factor.";  
RL (In) Sim E. (eds.);  
RL The natural immune system humoral factors, pp.65-119, IRL Press,  
RL Oxford (1993).  
RN [2]  
RP NUCLEOTIDE SEQUENCE [MRNA].  
RA Zucker K., Lu P., Fuller L., Aethana D., Esquenazi V., Miller J.;  
RT "Cloning and expression of the cDNA for canine tumor necrosis factor-  
RT alpha in E. coli.";  
RL Lymphokine Res. 13:191-196(1994).  
RN [3]  
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].  
RA Wagner J.L., Palti Y., DiDario D.D.;  
RT "Genomic map of a portion of the canine MHC class I histocompatibility  
RT complex.";  
RL Submitted (SEP-2003) to the EMBL/GenBank/DBJ databases.  
RN [4]  
RP NUCLEOTIDE SEQUENCE [MRNA] OF 74-205.  
RC STRAIN=Beagle; TISSUE=Blood;  
RA Gilmore W.H., Carter S.D., Bennett M., Barnes A., Kelly D.F.;  
RT "Expression of canine TNF, IL-1 and IL-6 mRNAs in peripheral blood  
RT monocytes and cell lines.";  
RL Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can  
CC induce cell death of certain tumor cell lines. It is potent  
CC pyrogen causing fever by direct action or by stimulation of  
CC interleukin 1 secretion and is implicated in the induction of  
CC cachexia. Under certain conditions it can stimulate cell  
CC proliferation and induce cell differentiation.  
CC -!- SUBUNIT: Homotrimer (By similarity).  
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
CC extracellular soluble form (By similarity).  
CC -!- PTM: The soluble form derives from the membrane form by  
CC proteolytic processing (By similarity).  
CC -!- PTM: The membrane form, but not the soluble form, is  
CC phosphorylated on serine residues. Dephosphorylation of the  
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
CC similarity).  
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.  
CC  
CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
CC  
CC EMBL; X94932; CAA64403.1; -; Genomic DNA.  
CC EMBL; S74068; AAB32391.1; -; mRNA.  
CC EMBL; AY423389; AAR27885.1; -; Genomic DNA.  
CC EMBL; Z70046; CAA93908.1; -; mRNA.  
CC HSSP; P01375; 4TSV.  
CC SMR; P51742; 82-233.  
CC Ensembl; ENSCARG0000000517; Canis familiaris.  
CC InterPro; IPR006053; TNF abc.  
CC InterPro; IPR002959; TNF alpha.  
CC InterPro; IPR006052; TNF family.  
CC InterPro; IPR003636; TNF\_subf.  
CC PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
CC Pfam; PF00229; TNF; 1.  
CC PRINTS; PR01234; TNCR0SISFCT.  
CC PRINTS; PR01235; TNFALPHA.  
CC ProDom; PD002012; TNF\_subf; 1.  
CC SMART; SM00207; TNF; 1.

DR PROSITE; PS00251; TNF\_1; 1.  
DR PROSITE; PS50049; TNF\_2; 1.  
KW Cytokine, Phosphorylation; Signal-anchor; Transmembrane.  
FT CHAIN 1 233  
FT CHAIN 77 233  
FT TOPO\_DOM 1 35  
FT TRANSMEM 36 56  
FT TOPO\_DOM 57 233  
FT SITE 76 77  
FT MOD\_RES 2 2  
FT DISULFID 145 177  
FT CONFLICT 59 60  
FT CONFLICT 66 66  
FT CONFLICT 74 74  
FT CONFLICT 111 111  
FT CONFLICT 116 116  
FT CONFLICT 134 135  
SQ SEQUENCE 233 AA; 25447 MW; 7B2588FBC8B25340 CRC64;  
  
Query Match 91.3%; Score 736; DB 1; Length 233;  
Best Local Similarity 89.8%; Pred. No. 8.3e-67;  
Matches 141; Conservative 7; Mismatches 9; Indels 0; Gaps 0;  
  
QY 1 VRSSRTPSDAPVAHVANPQAGQLWLNRRANALLANGVELRONQLVWPSEGLYLYS 60  
Db 77 VSSRTPSDAPVAHVANPQAGQLWLNRRANALLANGVELTQNLVPSDGLYLYS 136  
QY 61 QVLFSGQCPSTHVLTTTISRIVSVYQTRVNLISAIASPCQRETPEGAEALPWTEPIYL 120  
Db 137 QVLFSGQCPSTHVLTTTISRFAVSQYQKNLLSAIKSPCQRETPEGTEAKPWTEPIYL 196  
QY 121 GGVFOLETGDRLSABINRPDYLDFABSGQVYFGIIL 157  
Db 197 GGVFOLETGDRLSABINLPYLDFABSGQVYFGIIL 233  
  
RESULT 11  
ID TNFA\_FELCA STANDARD; PRT; 233 AA.  
AC P19101; Q8HYMO;  
DT 01-NOV-1990 (Rel. 16, Created)  
DT 10-OCT-2003 (Rel. 42, Last sequence update)  
DT 13-SEP-2005 (Rel. 48, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
OS Name=TNF; Synonyms=TNFA, TNFSF2;  
OS Felis silvestris catus (Cat).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;  
OC Felinae; Felis.  
OX NCBI\_TaxID=9685;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RC TISSUE=Blood;  
RX MEDLINE=91016860; PubMed=2216740;  
RA McGraw R.A., Coffee B.W., Otto C.M., Drews R.T., Rawlings C.A.;  
RT "Gene sequence of feline tumor necrosis factor alpha.";  
RL Nucleic Acids Res. 18:5563-5563(1990).  
RN [2]  
RP NUCLEOTIDE SEQUENCE [MRNA].  
RC TISSUE=Bone marrow;  
RA Daniel S.L., Brenner C.A., Legendre A.M., Solomon A., Rouse B.T.;  
RT "Feline cytokines TNF alpha and IL-1 beta: PCR cloning and sequencing  
RT of cDNA.";  
RL AnIm. Biotechnol. 3:117-121(1992).  
RN [3]  
RP NUCLEOTIDE SEQUENCE OF 95-185.  
RA Susott E.E., Kollo W.A., Venta P.J., Ewart S.L.;  
RT "Characterization of 8 feline type I markers.";  
RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and



DR PROSITE; PS50049; TNF 2; 1.  
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
FT CHAIN 1 233  
FT CHAIN 77 233  
FT CHAIN 77 233  
FT TOPO DOM 1 32  
FT TRANSMEM 33 55  
FT Signal-anchor for type II membrane protein (By similarity).  
FT TOPO DOM 56 233  
FT SITE 76 27  
FT MOD\_RES 2 2  
FT DISULFID 145 177  
SQ SEQUENCE 233 AA; 25578 MW; 197FB066F744FCAD CRC64;  
  
Query Match 87.3%; Score 704; DB 1; Length 233;  
Best Local Similarity 87.3%; Pred. No. 1.6e-63;  
Matches 137; Conservative 6; Mismatches 14; Indels 0; Gaps 0;  
  
QY 1 VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVWPSEGLYLIYS 60  
DB 77 VRSSRIKPSDKVAHVANPQAEGLQWLNRRANALLANGVELRDNLVWPSEGLYLIYS 136  
  
QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLISAIASPCQRETPEGAEALPWYEPIYL 120  
DB 137 QVLFKGQGCPSFTLLTHTISRIASVYQKVNLLSAIKSPCORETPRGAKTHPWEPIYL 196  
  
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 197 GGVFQLEKGDLSABISPPDLSLDAESGQVYFGIALL 233  
  
RESULT 13  
TNFA\_HORSE  
ID TNFA\_HORSE STANDARD; PRT; 234 AA.  
AC P29553; Q9TJT3;  
DT 01-APR-1993 (Rel. 25, Created)  
DT 01-APR-1993 (Rel. 25, Last sequence update)  
DT 13-SEP-2005 (Rel. 48, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
GN Name=TNF; Synonyms=TNFA, TNFSEF;  
OS Equus caballus (Horse).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.  
OX NCBI\_TaxID=9796;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=92084125; PubMed=1748301; DOI=10.1016/0378-1119(91)90333-7;  
RA Su X., Morris D.D., McGraw R.A.;  
RT "Cloning and characterization of gene TNF alpha encoding equine tumor necrosis factor alpha."  
RL Gene 107:319-321(1991).  
RN [2]  
RP NUCLEOTIDE SEQUENCE.  
RC STRAIN=Thoroughbred; TISSUE=Artery;  
RA Ishida N., Sato F., Hasegawa T.;  
RT "Molecular cloning of equine tumor necrosis factor-alpha mRNA."  
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.  
CC -1- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cachexia. Under certain conditions it can stimulate cell proliferation and induce cell differentiation.  
CC -1- SUBUNIT: Homotrimer (By similarity).  
CC -1- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an extracellular soluble form (By similarity).  
CC -1- PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).  
CC -1- PTM: The membrane form, but not the soluble form, is

CC phosphorylated on serine residues. Dephosphorylation of the membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By similarity).  
CC -1- SIMILARITY: Belongs to the tumor necrosis factor family.  
CC This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not removed.  
CC EMBL; M64087; AAA30959.1; -; Genomic DNA.  
DR EMBL; AB035735; BAA88349.1; -; mRNA.  
DR PIR; J01344; J01344.  
DR HSP; P01375; IABM.  
DR SMR; P29553; 83-234.  
DR InterPro; IPR006053; TNF\_abc.  
DR InterPro; IPR002959; TNF\_alpha.  
DR InterPro; IPR006052; TNF\_family.  
DR InterPro; IPR003636; TNF\_subf.  
DR PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
DR Pfam; PF00229; TNF; 1.  
DR PRINTS; PR01234; TNECROSISFCT.  
DR PRINTS; PR01235; TNFALPHA.  
DR ProDom; PD002012; TNF\_subf; 1.  
DR SMART; SM00207; TNF\_1.  
DR PROSITE; PS00251; TNF\_1; 1.  
DR PROSITE; PS50049; TNF\_2; 1.  
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
FT CHAIN 1 234  
FT TOPO DOM 78 234  
FT TRANSMEM 36 56  
FT TOPO DOM 57 234  
FT SITE 77 78  
FT MOD\_RES 2 2  
FT DISULFID 146 178  
FT CONFLICT 177 179 PCH -> LAN (in Ref. 2).  
SQ SEQUENCE 234 AA; 25469 MW; E79ACE91143DF373 CRC64;  
  
Query Match 86.2%; Score 695; DB 1; Length 234;  
Best Local Similarity 85.4%; Pred. No. 1.3e-62;  
Matches 134; Conservative 11; Mismatches 12; Indels 0; Gaps 0;  
  
QY 1 VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVWPSEGLYLIYS 60  
DB 78 LRSSRTSPDKVAHVANPQAEGLQWLSGRANALLANGVKTLDNLVPLDGLYLIYS 137  
  
QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLISAIASPCQRETPEGAEALPWYEPIYL 120  
DB 138 QVLFKGQGCPSHTVLLTHTISRIASVYSPKVNLLSAIKSPCHTESPEQAEKWPYEPIYL 197  
  
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 198 GGVFQLEKGDLSAEINQPNYLDFAESGQVYFGIALL 234  
  
RESULT 14  
O97538 ACTVO  
ID O97538 ACTVO PRELIMINARY; PRT; 149 AA.  
AC O97538  
DT 01-MAY-1999 (TrEMBLrel. 10, Created)  
DT 01-MAY-1999 (TrEMBLrel. 10, Last sequence update)  
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)  
DE Tumor necrosis factor alpha (Fragment).  
GN Name=TNF-alpha;  
OS Aotus vociferans (Spix's owl monkey).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae; Aotinae; Aotus.  
OX NCBI\_TaxID=57176;  
RN [1]

```

RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
RT in four species of owl monkey.";
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF014508; AAD01534.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SNR; O97538; 1-149.
DR GO; GO:0016020; C:membrane; IEA.
DR GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P:immune response; IEA.
DR InterPro; IPR006053; TNF abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS50049; TNF_2; 1.
DR PROSITE; PS50049; TNF_2; 1.
DR NON_TER 1
FT NON_TER 149
SQ SEQUENCE 149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;

Query Match 86.0%; Score 693; DB 2; Length 149;
Best Local Similarity 89.3%; Pred. No. 1.2e-62;
Matches 133; Conservative 5; Mismatches 11; Indels 0; Gaps 0;

QY 8 PSDAPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYSQVLFSGQ 67
DB 1 PSDKPVAVVAVNPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYSQVLFKQG 60

QY 68 GCPSTHVLLTHTSIRIAVSQTRVNLLSAIAISPCQRETPGAEALPMYEPYILGGVFOLE 127
DB 61 GCFSTFMLLTHSIRIAVSQAKVNLLSAIAISPCQRETPRGAKTNPMYEPYILGGVFOLE 120

QY 128 TGDRLSAEINRPDYLDPAESGVYFGIIA 156
DB 121 KGDRLSAEINLPDYLDLAESGVYFGIIA 149

Search completed: May 5, 2006, 11:26:01
Job time : 53.5 secs

```

```

RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
RT in four species of owl monkey.";
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF014508; AAD01534.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SNR; O97538; 1-149.
DR GO; GO:0016020; C:membrane; IEA.
DR GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P:immune response; IEA.
DR InterPro; IPR006053; TNF abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS50049; TNF_2; 1.
DR NON_TER 1
FT NON_TER 149
SQ SEQUENCE 149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;

Query Match 86.0%; Score 693; DB 2; Length 149;
Best Local Similarity 89.3%; Pred. No. 1.2e-62;
Matches 133; Conservative 5; Mismatches 11; Indels 0; Gaps 0;

QY 8 PSDAPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYSQVLFSGQ 67
DB 1 PSDKPVAVVAVNPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYSQVLFKQG 60

QY 68 GCPSTHVLLTHTSIRIAVSQTRVNLLSAIAISPCQRETPGAEALPMYEPYILGGVFOLE 127
DB 61 GCFSTFMLLTHSIRIAVSQAKVNLLSAIAISPCQRETPRGAKTNPMYEPYILGGVFOLE 120

QY 128 TGDRLSAEINRPDYLDPAESGVYFGIIA 156
DB 121 KGDRLSAEINLPDYLDLAESGVYFGIIA 149

RESULT 15
Q9TTG8_AOTNI
ID Q9TTG8_AOTNI PRELIMINARY; PRT; 149 AA.
AC Q9TTG8;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Tumor necrosis factor alpha (fragment).
GN Name=TNF-alpha;
OS Aotus nigriceps (Black-headed owl monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC Aotinae; Aotus.
OX NCBI_TaxID=57175;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
RT in four species of owl monkey.";
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF097328; AAF21303.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; Q9TTG8; 1-149.
DR GO; GO:0016020; C:membrane; IEA.
DR GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P:immune response; IEA.

```

**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:22:28 ; Search time 15.25 Seconds  
(without alignments)  
851.153 Million cell updates/sec

Title: US-10-668-178-15  
Perfect score: 806  
Sequence: 1 VRSSRTPSDAPVAHVANP.....RPDLPABSGQVYFGIIAL 157

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued Patents AA:\*  
1: /cgn2\_6/ptodata/1/iaa/5 COMB.pep.\*  
2: /cgn2\_6/ptodata/1/iaa/6 COMB.pep.\*  
3: /cgn2\_6/ptodata/1/iaa/H COMB.pep.\*  
4: /cgn2\_6/ptodata/1/iaa/PCTUS COMB.pep.\*  
5: /cgn2\_6/ptodata/1/iaa/RE COMB.pep.\*  
6: /cgn2\_6/ptodata/1/iaa/backfile1.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	777	96.4	157	1	US-07-794-400-1 Sequence 1, Appli
2	777	96.4	157	1	US-08-041-648-2 Sequence 2, Appli
3	777	96.4	157	1	US-08-107-235-1 Sequence 1, Appli
4	777	96.4	157	1	US-08-217-529-2 Sequence 2, Appli
5	777	96.4	157	1	US-08-318-193-86 Sequence 86, Appli
6	777	96.4	157	1	US-08-397-470-1 Sequence 1, Appli
7	777	96.4	157	1	US-08-192-102-1 Sequence 1, Appli
8	777	96.4	157	1	US-08-324-799-1 Sequence 1, Appli
9	777	96.4	157	1	US-08-538-875-1 Sequence 1, Appli
10	777	96.4	157	1	US-08-394-600B-17 Sequence 17, Appli
11	777	96.4	157	1	US-08-500-860A-35 Sequence 35, Appli
12	777	96.4	157	1	US-08-192-861A-1 Sequence 1, Appli
13	777	96.4	157	1	US-08-600-783-5 Sequence 5, Appli
14	777	96.4	157	2	US-08-584-031-13 Sequence 13, Appli
15	777	96.4	157	2	US-08-714-960B-1 Sequence 1, Appli
16	777	96.4	157	2	US-09-133-119-1 Sequence 1, Appli
17	777	96.4	157	2	US-08-192-093A-1 Sequence 1, Appli
18	777	96.4	157	2	US-09-598-784-1 Sequence 1, Appli
19	777	96.4	157	2	US-09-496-118B-7 Sequence 7, Appli
20	777	96.4	157	2	US-08-395-456C-17 Sequence 17, Appli
21	777	96.4	157	2	US-08-487-453A-17 Sequence 17, Appli
22	777	96.4	157	2	US-09-582-450-13 Sequence 13, Appli
23	777	96.4	157	2	US-09-934-465-13 Sequence 13, Appli
24	777	96.4	157	2	US-09-756-301B-1 Sequence 1, Appli
25	777	96.4	157	2	US-09-756-398B-1 Sequence 1, Appli
26	777	96.4	157	4	PCT-US92-02190-1 Sequence 1, Appli
27	777	96.4	157	4	PCT-US93-02475-1 Sequence 1, Appli

28	777	96.4	157	4	PCT-US95-02513-17 Sequence 17, Appli
29	777	96.4	157	6	5180811-1 Patent No. 5180811
30	777	96.4	158	2	US-09-645-415A-4 Sequence 4, Appli
31	777	96.4	177	1	US-08-394-600B-21 Sequence 21, Appli
32	777	96.4	177	2	US-08-395-456C-21 Sequence 21, Appli
33	777	96.4	177	2	US-08-487-453A-21 Sequence 21, Appli
34	777	96.4	177	4	PCT-US95-02513-21 Sequence 8, Appli
35	777	96.4	180	2	US-09-645-415A-8 Sequence 3, Appli
36	777	96.4	193	1	US-08-889-909A-3 Sequence 3, Appli
37	777	96.4	193	2	US-09-156-163A-3 Sequence 3, Appli
38	777	96.4	193	2	US-09-982-308B-3 Sequence 10, Appli
39	777	96.4	233	1	US-08-323-445A-10 Sequence 10, Appli
40	777	96.4	233	1	US-08-515-903A-10 Sequence 3, Appli
41	777	96.4	233	1	US-08-912-227-3 Sequence 2, Appli
42	777	96.4	233	1	US-08-230-428B-2 Sequence 6, Appli
43	777	96.4	233	2	US-08-883-086-6 Sequence 37, Appli
44	777	96.4	233	2	US-08-880-342-37 Sequence 3, Appli
45	777	96.4	233	2	US-09-589-287B-3 Sequence 3, Appli

ALIGNMENTS

RESULT 1  
US-07-794-400-1  
; Sequence 1, Application US/07794400  
; Patent No. 5422104  
; GENERAL INFORMATION:  
; APPLICANT: Fiers, W.  
; APPLICANT: Tavernier, J.  
; APPLICANT: Van Ostade, X.  
; TITLE OF INVENTION: TNF-Mutains  
; NUMBER OF SEQUENCES: 24  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Hoffmann-La Roche Inc.  
; STREET: 340 Kingsland Street  
; CITY: Nutley  
; STATE: New Jersey  
; COUNTRY: USA  
; ZIP: 07110  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07794,400  
; FILING DATE: 19911120  
; CLASSIFICATION: 435  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: EP 90810901.0  
; FILING DATE: 21-NOV-1990  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Krovatin, William  
; REGISTRATION NUMBER: 33256  
; REFERENCE/DOCKET NUMBER: 4105/136-00  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (201) 235-4387  
; TELEFAX: (201) 235-3500  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 157 amino acids  
; TYPE: AMINO ACID  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; ORIGINAL SOURCE:  
; ORGANISM: Homo sapiens  
; TISSUE TYPE: Blood  
; CELL TYPE: Macrophage  
; US-07-794-400-1  
Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;

Matches	151;	Conservative	1;	Mismatches	5;	Indels	0;	Gaps	0;
Qy	1	VRSSRTPSDAPVAHVVANPAEQEQQLWLNRRANALLANGVELRDNLQWVPSEGLYLIYS	60						
Db	1	VRSSRTPSDKPAHVHVANPAEQEQQLWLNRRANALLANGVELRDNLQWVPSEGLYLIYS	60						
Qy	61	QVLPSGGGCPSTHYLLTHTTSIRIAVSQYTRVNLLSAISPQRETPPGAEALPWYEFIYL	120						
Db	61	QVLPSGGGCPSTHYLLTHTTSIRIAVSQYTKVNLLSAISPQRETPPGAEAKPWYEFIYL	120						
Qy	121	GGVFQLETKGRLSAEINRPDYLDPAESGVYFGIIAL	157						
Db	121	GGVFQLEKGRLSAEINRPDYLDPAESGVYFGIIAL	157						

RESULT 2  
US-08-041-648-2  
; Sequence 2, Application US/08041648  
; Patent No. 5486463  
; GENERAL INFORMATION:  
; APPLICANT: Lesslauer, Werner  
; APPLICANT: L tscher, Hansruedi  
; APPLICANT: St ber, Dietrich  
; TITLE OF INVENTION: TNP-MUTEINS  
; NUMBER OF SEQUENCES: 17  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: George M. Gould, Esq., Hoffmann-La Roche Inc.  
; STREET: 340 Kingland Street  
; CITY: Nutley  
; STATE: New Jersey  
; COUNTRY: U.S.A.

	Query Match	96.4%	Score 777;	DB 1;	Length 157;	
	Best Local Similarity	96.2%;	Pred. No. 3.9e-74;			
	Matches 151; Conservative	1;	Mismatches 5;	Indels 0;	Gaps 0;	
<hr/>						
Qy	1	VRSSRTPSDAPVAHVVANPQAEGQLQWLNRRNALLANGVELRDNLQVWPSEGLYLIYS	60			
Dd	1	VRSSRTPDKPAHVHVVANPQAEGQLQWLNRRNALLANGVELRDNLQVWPSEGLYLIYS	60			
<hr/>						
Qy	61	QVLFSGGGCPSTHYLLTHTISRIAVSYQTRVNLLSAIASPCQRETTPGAALPWYEPIYL	120			
		:				
Dd	61	QVLFKGGGCPSTHYLLTHTISRIAVSYQTKVNLLSAIKSPCQRETTPGAAKPWYEPIYL	120			
		:				
<hr/>						
Qy	121	GGVFQLETGDRLSAEINRPDYLPDAESGVYFGIIAL	157			

```

121 121 GGVFQLEKDRLSABINRPDYLDFAESQVYFGIATL 157

RESULT 3
US-08-107-235-1
; Sequence 1, Application US/08107235
; Patent No. 5587457
; GENERAL INFORMATION:
; APPLICANT: Rathjen, Deborah A
; APPLICANT: Ferrante, Antonio
; APPLICANT: Widmer, Fred
; TITLE OF INVENTION: Neutrophil Stimulating Peptides
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Allegretti & Witcoff, Ltd.
; STREET: 10 S. Wacker Dr.
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/107,235
; FILING DATE: 16-AUG-1993
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/930,415
; FILING DATE: 12-MAR-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: McDonnell, John J
; REGISTRATION NUMBER: 26,949
; REFERENCE/DOCKET NUMBER: 92,622A
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 312-715-1000
; TELEFAX: 312-715-1234
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 1..157
; OTHER INFORMATION: /note= "HUMAN TNP" *
; US-08-107-235-1

```

	Query Match	96.4%	Score 777;	DB 1;	Length 157;
	Best Local Similarity	96.2%;	Pred. No. 3.9e-74;		
	Matches 151;	Conservative 1;	Mismatches 5;	Indels 0;	Gaps 0
Qy	1	VRSSRTPSDAPVAHVVANPQAEQQLQWLNRRANALLANGVLELDNQLNLPVSEGLYLIIYS	60		
Db	1	VRSSRTPSDKPAHVHVVANPQAEQQLQWLNRRANALLANGVLELDNQLNLPVSEGLYLIIYS	60		
Qy	61	QVLFSGGCGPSTHVLLTHTTISRATVSYQTQTRVNLISAIASPCQRTPEGAALPWVEPIYL	120		
Db	61	QVLFKGGCGESTHVLLTHTTISRATVSYQTQTRVNLISAIKSPCQRTPEGAAPWVEPIYL	120		
Qy	121	GGVFQLETGDRLSAEINRPDYLDPAESGVYFGIIAL	157		
Db	121	GGVFQLEKGRLSAEINRPDYLDPAESGVYFGIIAL	157		

RESULT 4  
US-08-217-529-2  
; Sequence 2, Application US/08217529  
; Patent No. 5597899  
; GENERAL INFORMATION;



APPLICANT: Banner, David  
APPLICANT: Lesslauer, Werner  
APPLICANT: Letscher, Hansreudt  
APPLICANT: Stuber, Dietrich  
TITLE OF INVENTION: Tumor Necrosis Factor Muteins  
NUMBER OF SEQUENCES: 7  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: George M. Gould, Esq., Hoffmann-La Roche Inc.  
STREET: 340 Kingsland Street  
CITY: Nutley  
STATE: New Jersey  
COUNTRY: U.S.  
ZIP: 07110  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/217,529  
FILING DATE: 24-MAR-1994  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: EP 93810224.1  
FILING DATE: 29-MAR-1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Roseman, Catherine R  
REGISTRATION NUMBER: 34240  
REFERENCE/DOCKET NUMBER: 4105/155  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (201) 235-6208  
TELEFAX: (201) 235-3500  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-217-529-2

Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTSPDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
DB 1 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLISAIASPCQRETPEGAEALPWYPIYL 120  
DB 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLISAIASPCQRETPEGAEALPWYPIYL 120  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIAL 157  
DB 121 GGVFOLEKGDRLSAEINRPDYLDFAESGQVYFGIAL 157

RESULT 5  
US-08-318-193-86  
Sequence 86, Application US/08318193  
Patent No. 5641663  
GENERAL INFORMATION:  
APPLICANT: GARVIN, Robert T.  
APPLICANT: MALEK, Lawrence T.  
TITLE OF INVENTION: AN EXPRESSION SYSTEM FOR THE SECRETION  
OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY  
STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS  
PROTEINS FROM STREPTOMYCES  
TITLE OF INVENTION: PROTEINS FROM STREPTOMYCES  
NUMBER OF SEQUENCES: 91  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Foley & Lardner  
STREET: 1800 Diagonal Road, Suite 500  
CITY: Alexandria

STATE: Virginia  
COUNTRY: USA  
ZIP: 22313-0299  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/318,193  
FILING DATE:  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/07/935,314  
FILING DATE:  
APPLICATION NUMBER: US 07/224,568  
ATTORNEY/AGENT INFORMATION:  
NAME: BENT, Stephen A.  
REGISTRATION NUMBER: 29,768  
REFERENCE/DOCKET NUMBER: 18740/116 CACO  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (703) 836-9300  
TELEFAX: (703) 683-4109  
TELEX: 899149  
INFORMATION FOR SEQ ID NO: 86:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-318-193-86  
Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTSPDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
DB 1 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLISAIASPCQRETPEGAEALPWYPIYL 120  
DB 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLISAIASPCQRETPEGAEALPWYPIYL 120  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIAL 157  
DB 121 GGVFOLEKGDRLSAEINRPDYLDFAESGQVYFGIAL 157  
RESULT 6  
US-08-397-470-1  
Sequence 1, Application US/08397470  
Patent No. 5652353  
GENERAL INFORMATION:  
APPLICANT: Fiers, W.  
APPLICANT: Tavernier, J.  
APPLICANT: Van Oostade, X.  
TITLE OF INVENTION: TNF-Mutins  
NUMBER OF SEQUENCES: 24  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Hoffmann-La Roche Inc.  
STREET: 340 Kingsland Street  
CITY: Nutley  
STATE: New Jersey  
COUNTRY: USA  
ZIP: 07110  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/397,470

```
; FILING DATE: 01-MAR-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/794,400
; FILING DATE: 20-NOV-1991
; APPLICATION NUMBER: EP 90810901.0
; FILING DATE: 21-NOV-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Krovatin, William
; REGISTRATION NUMBER: 33256
; REFERENCE/DOCKET NUMBER: 4105/136-00
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (201) 235-4387
; TELEFAX: (201) 235-3500
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; ORGANISM: Homo sapiens
; TISSUE TYPE: Blood
; CELL TYPE: Macrophage
;
US-08-397-470-1

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 3.9e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVWPSEGLYLIYS 60
Db 1 VRSSRTSDKVAHVANPQAEQQLWLNRRANALLANGVELRDNLVWPSEGLYLIYS 60
QY 61 QVLFSGQGCPSHVLTLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
Db 61 QVLFKGGQCPSTHVLTLTHTISRIAVSYQTKVNLLSAIAKSPCQRETPEGAEALPWYEPIYL 120
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIAL 157
Db 121 GGVFOLEKGRLSAEINRPDYLDFAESQGVYFGIAL 157

RESULT 7
US-08-192-102-1
; Sequence 1, Application US/08192102
; Patent No. 5656272
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter E.
; APPLICANT: Ghirayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott A.
; TITLE OF INVENTION: ANTI-TNF ANTIBODIES AND ASSAYS EMPLOYING
; TITLE OF INVENTION: ANTI-TNF ANTIBODIES
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
; STREET: Two Militia Drive
; CITY: Lexington
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02173
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/192,102
; FILING DATE: 04-FEB-1994
; CLASSIFICATION: 424

; FILING DATE: 01-MAR-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/794,400
; FILING DATE: 20-NOV-1991
; APPLICATION NUMBER: EP 90810901.0
; FILING DATE: 21-NOV-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Krovatin, William
; REGISTRATION NUMBER: 33256
; REFERENCE/DOCKET NUMBER: 4105/136-00
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (201) 235-4387
; TELEFAX: (201) 235-3500
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; ORGANISM: Homo sapiens
; TISSUE TYPE: Blood
; CELL TYPE: Macrophage
;
US-08-397-470-1

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 3.9e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVWPSEGLYLIYS 60
Db 1 VRSSRTSDKVAHVANPQAEQQLWLNRRANALLANGVELRDNLVWPSEGLYLIYS 60
QY 61 QVLFSGQGCPSHVLTLTHTISRIAVSYQTRVNLLSAIASPCQRETPEGAEALPWYEPIYL 120
Db 61 QVLFKGGQCPSTHVLTLTHTISRIAVSYQTKVNLLSAIAKSPCQRETPEGAEALPWYEPIYL 120
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIAL 157
Db 121 GGVFOLEKGRLSAEINRPDYLDFAESQGVYFGIAL 157

RESULT 8
US-08-324-799-1
; Sequence 1, Application US/08324799
; Patent No. 5698195
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter E.
; APPLICANT: Ghirayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott A.
; TITLE OF INVENTION: ANTI-TNF ANTIBODIES AND PEPTIDES
; TITLE OF INVENTION: ANTI-TNF ANTIBODIES
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
; STREET: Two Militia Drive
; CITY: Lexington
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02173
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
```

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/324,799  
FILING DATE: 18-OCT-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,093  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,102  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,861  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/013,413  
FILING DATE: 02-FEB-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/010,406  
FILING DATE: 29-JAN-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/943,852  
FILING DATE: 11-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/853,606  
FILING DATE: 18-MAR-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/670,827  
FILING DATE: 18-MAR-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Brook, David E.  
REGISTRATION NUMBER: 22,592  
REFERENCE/DOCKET NUMBER: NYU93-01M4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (617) 861-6240  
TELEFAX: (617) 861-9540  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-324-799-1

Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
DB 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
  
QY 61 QVLFSGGCGPSTHLLTHTISRIASVYQTRVNLLSAISPQORETPEGAALPWPYPIYL 120  
DB 61 QVLFKGCGCPSTHLLTHTISRIASVYQTKVNLLSAISPQORETPEGAALPWPYPIYL 120  
  
QY 121 GGVFQLEKGRSLAEINRPDYLDFAESGQVYFGIIAL 157  
DB 121 GGVFQLEKGRSLAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 9  
US-08-538-875-1  
Sequence 1, Application US/08538875  
Patent No. 5773582  
GENERAL INFORMATION:  
APPLICANT: Shin, Hang-Cheol  
APPLICANT: Shin, Nam-Kyu  
APPLICANT: Lee, Inkyung  
APPLICANT: Kang, Sungzong  
TITLE OF INVENTION: TUMOR NECROSIS FACTOR MUTEINS  
NUMBER OF SEQUENCES: 73  
CORRESPONDENCE ADDRESS:

ADDRESSEE: Shin, Hang-Cheol  
STREET: Jukong Gocheung Apt. 1014-806, Haan-dong  
CITY: Kwangmyung-shi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 423-060  
ADDRESSEE: Shin, Nam-Kyu  
STREET: #181-404 Sadang-4-dong, Dongjak-ku  
CITY: Seoul  
STATE:  
COUNTRY: Republic of Korea  
ZIP: 156-094  
ADDRESSEE: Lee, Inkyung  
STREET: 11/2, #302-39 Juan-4-dong, Nam-ku  
CITY: Incheon  
STATE:  
COUNTRY: Republic of Korea  
ZIP: 402-204  
ADDRESSEE: Kang, Sungzong  
STREET: #84-4 Daeshin-dong, Seodaemun-ku  
CITY: Seoul  
STATE:  
COUNTRY: Republic of Korea  
ZIP: 120-160  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette 3.5inch 2.0Mb storage  
COMPUTER: IBM PC/AT  
OPERATING SYSTEM: MS-DOS  
SOFTWARE: WordPerfect 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/538,875  
FILING DATE:  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/08/193,336  
FILING DATE:  
APPLICATION NUMBER: KR 93-1751  
FILING DATE: 9-FEB-1993  
ATTORNEY/AGENT INFORMATION:  
NAME:  
REGISTRATION NUMBER:  
REFERENCE/DOCKET NUMBER:  
TELECOMMUNICATION INFORMATION:  
TELEPHONE:  
TELEFAX:  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-538-875-1  
  
Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
DB 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
  
QY 61 QVLFSGGCGPSTHLLTHTISRIASVYQTRVNLLSAISPQORETPEGAALPWPYPIYL 120  
DB 61 QVLFKGCGCPSTHLLTHTISRIASVYQTKVNLLSAISPQORETPEGAALPWPYPIYL 120  
  
QY 121 GGVFQLEKGRSLAEINRPDYLDFAESGQVYFGIIAL 157  
DB 121 GGVFQLEKGRSLAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 10  
US-08-394-600B-17

```
; Sequence 17, Application US/08394600B
; Patent No. 5843693
; GENERAL INFORMATION:
; APPLICANT: Halenbeck, Robert F.
; APPLICANT: Jewell, David A.
; APPLICANT: Koths, Kirston E.
; APPLICANT: Krieger, Michael
; APPLICANT: Perez, Carl
; TITLE OF INVENTION: Compositions for the Inhibition of
; TITLE OF INVENTION: Protein Hormone Formation and Uses Thereof
; NUMBER OF SEQUENCES: 28
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: McAndrews, Held & Malloy, Ltd.
; STREET: 500 West Madison Street; 34th Floor
; CITY: Chicago
; STATE: Illinois
; COUNTRY: United States of America
; ZIP: 60661
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/394,600B
; FILING DATE: 02/27/95
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Donald J. Pochopien
; REGISTRATION NUMBER: 32,167
; REFERENCE/DOCKET NUMBER: 820,005/11850US05
; TELEPHONE: 312/707-8889
; TELEFAX: 312/707-9155
; TELEX:
; INFORMATION FOR SEQ ID NO: 17:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-394-600B-17

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 3.9e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKXVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
Qy 61 QVLFSGQGPCSTHLLTHTISRIASVYQTRVNLLSAISPQORETPEGAEALPWTEPIYL 120
Db 61 QVLFKGQGPCSTHLLTHTISRIASVYQTKVNLLSAISPQORETPEGAEAKPWTEPIYL 120
Qy 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157
Db 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 11
US-08-500-860A-35
; Sequence 35, Application US/08500860A
; Patent No. 5891679
; GENERAL INFORMATION:
; APPLICANT: LUCAS, RUDOLPH
; APPLICANT: DE BAETSLEIER, PATRICK
; APPLICANT: FRANSSEN, LUCIE
; APPLICANT: SABLON, ERWIN
; TITLE OF INVENTION: TNF-MUTEINS, A PROCESS FOR PREPARING THEM AND
; TITLE OF INVENTION: THEIR USE AS ACTIVE SUBSTANCES IN PHARMACEUTICAL COMPOSITIONS
; NUMBER OF SEQUENCES: 36
; CORRESPONDENCE ADDRESS:
```

```
; ADDRESSEE: NIXON & VANDERHUYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/500,860A
; FILING DATE:
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: BYRNE, THOMAS E.
; REGISTRATION NUMBER: 32,205
; REFERENCE/DOCKET NUMBER: 1487-8
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703)816-4000
; TELEFAX: (703)816-4100
; TELEX: 200797 NIXN UR
; INFORMATION FOR SEQ ID NO: 35:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-500-860A-35

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 3.9e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKXVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
Qy 61 QVLFSGQGPCSTHLLTHTISRIASVYQTRVNLLSAISPQORETPEGAEALPWTEPIYL 120
Db 61 QVLFKGQGPCSTHLLTHTISRIASVYQTKVNLLSAISPQORETPEGAEAKPWTEPIYL 120
Qy 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157
Db 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 12
US-08-192-861A-1
; Sequence 1, Application US/08192861A
; Patent No. 5919452
; GENERAL INFORMATION:
; APPLICANT: Le, Junning
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter E.
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott A.
; TITLE OF INVENTION: METHODS OF TREATING TNF-MEDIATED DISEASE USING
; TITLE OF INVENTION: CHIMERIC ANTI-TNF ANTIBODIES (As Amended)
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
; STREET: Two Militia Drive
; CITY: Lexington
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02173
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
```

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/192,861A  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/013,413  
FILING DATE: 02-FEB-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/010,406  
FILING DATE: 29-JAN-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/943,852  
FILING DATE: 11-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/853,606  
FILING DATE: 18-MAR-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/670,827  
FILING DATE: 18-MAR-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Brook, David E.  
REGISTRATION NUMBER: 22,592  
REFERENCE/DOCKET NUMBER: NYU93-01M2  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (781) 861-6240  
TELEFAX: (781) 861-9540  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-192-861A-1

Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSSTPSDAPVAHVAVNPAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSSTPSDKPVAHVAVNPAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
  
QY 61 QVLFSGGCPSTHVLTHTSIRIAVSQYTRVNLLSAIAASPCQRETPEGAEALPWYEPYIL 120  
DB 61 QVLFSGGCPSTHVLTHTSIRIAVSQYTRVNLLSAIAASPCQRETPEGAEALPWYEPYIL 120  
  
QY 121 GGVFQLETKGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 121 GGVFQLETKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 13  
US-08-600-783-5  
Sequence 5, Application US/08600783  
Patent No. 5962267  
GENERAL INFORMATION:  
APPLICANT: SHIN, Hang Cheol  
APPLICANT: CHANG, Seung Gu  
APPLICANT: KIM, Dae Young  
APPLICANT: KIM, Chong Suh1  
TITLE OF INVENTION: Proinsulin Derivative and Process  
TITLE OF INVENTION: for Producing Human Insulin  
NUMBER OF SEQUENCES: 36  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: SHIN, Hang Cheol  
STREET: Ssangma-Hansein Apt. 102-1206,  
STREET: #245 Cholsan-dong  
CITY: Kwangmyung-shi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 423-030  
ADDRESSEE: CHANG, Seung Gu

STREET: Hyundai Apt. 71-203, Apkujong-dong,  
STREET: Kangnam-ku  
CITY: Seoul  
STATE: Seoul  
COUNTRY: Republic of Korea  
ZIP: 135-110  
ADDRESSEE: KIM, Dae Young  
STREET: Sosa Jukong Apt. 108-202, Sosa Bon-dong,  
STREET: Sosa-ku  
CITY: Bucheon-shi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 422-230  
ADDRESSEE: KIM, Chong Suh1  
STREET: Garden Heights Apt. 202-801, #100,  
STREET: Hwangkeum-dong, Soosung-ku  
CITY: Taegu  
STATE: Taegu  
COUNTRY: Republic of Korea  
ZIP: 706-040  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy Disk, 3.5 inch, 1.44MB storage  
COMPUTER: IBM PC/AT  
OPERATING SYSTEM: MS-DOS  
SOFTWARE: Word Perfect 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/600,783  
FILING DATE:  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: KR 95-2751  
FILING DATE: 15-FEB-1995  
ATTORNEY/AGENT INFORMATION:  
NAME: Shahan Islam  
REGISTRATION NUMBER: 32,507  
REFERENCE/DOCKET NUMBER:  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (212) 278-1000  
TELEFAX: (212) 953-7249  
INFORMATION FOR SEQ ID NO: 5:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-600-783-5

Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSSTPSDAPVAHVAVNPAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSSTPSDKPVAHVAVNPAEQQLWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
  
QY 61 QVLFSGGCPSTHVLTHTSIRIAVSQYTRVNLLSAIAASPCQRETPEGAEALPWYEPYIL 120  
DB 61 QVLFSGGCPSTHVLTHTSIRIAVSQYTRVNLLSAIAASPCQRETPEGAEALPWYEPYIL 120  
  
QY 121 GGVFQLETKGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 121 GGVFQLETKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 14  
US-08-584-031-13  
Sequence 13, Application US/08584031A  
Patent No. 6030945  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi J.  
TITLE OF INVENTION: APO-2 LIGAND  
FILE REFERENCE: 11669.22US03

```
;
; CURRENT APPLICATION NUMBER: US/08/584,031A
; CURRENT FILING DATE: 1996-01-09
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-08-584-031-13

Query Match          96.4%; Score 777; DB 2; Length 157;
Best Local Similarity 96.2%; Pred. No. 3.9e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQGCPSPTHVLLTHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPIYL 120
Db 61 QVLFKGQGCPSPTHVLLTHTTISRIVSYQTKVNLISAIKSPCORETPEGAEAKPWYEPIYL 120
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 15
US-08-714-960B-1
; Sequence 1, Application US/08714960B
; Patent No. 6121237
; GENERAL INFORMATION:
; APPLICANT: RATHJEN, Deborah A
; APPLICANT: FERRANTE, Antonio
; TITLE OF INVENTION: Neutrophil Stimulating Peptides
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: BANNER & WITCOFF, LTD.
; STREET: 10 S. Wacker Drive, Suite 3000
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: IBM compatible PC/MS-DOS
; SOFTWARE: WordPerfect version 6.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/714,960B
; FILING DATE: 17-SEP-1996
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: AU RJ9065
; FILING DATE: 12-MAR-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU91/00086
; FILING DATE: 12-MAR-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/930,415
; FILING DATE: 09-NOV-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/107,235
; FILING DATE: 16-AUG-1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Reis, Robert H.
; REGISTRATION NUMBER: 32,168
; REFERENCE/DOCKET NUMBER: 92,622-B
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 715-1000
; TELEFAX: (312) 715-1234
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
```

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:23 ; Search time 45.5 Seconds  
(without alignments)  
1441.741 Million cell updates/sec

Title: US-10-668-178-15

Perfect score: 806

Sequence: 1 VRSSSRTPSDAPVAHVANP.....RPDYLDFAESGGVYFGIIAL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

- 1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pap.\*
- 2: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pap.\*
- 3: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pap.\*
- 4: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pap.\*
- 5: /cgn2\_6/ptodata/1/pubpaa/US10B\_PUBCOMB.pap.\*
- 6: /cgn2\_6/ptodata/1/pubpaa/US11\_PUBCOMB.pap.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Match	Query Match Length	ID	Description
1	806	100.0	157	5	US-10-668-178-15 Sequence 15, Appl
2	806	100.0	157	5	US-10-668-178-16 Sequence 16, Appl
3	778	96.5	157	4	US-10-262-630-13 Sequence 13, Appl
4	778	96.5	157	4	US-10-354-985-2 Sequence 2, Appl
5	778	96.5	157	5	US-10-668-178-2 Sequence 1, Appl
6	777	96.4	157	3	US-09-756-301A-1 Sequence 1, Appl
7	777	96.4	157	3	US-09-827-703-1 Sequence 1, Appl
8	777	96.4	157	3	US-09-854-280-19 Sequence 19, Appl
9	777	96.4	157	3	US-09-934-465-13 Sequence 13, Appl
10	777	96.4	157	3	US-09-766-535A-1 Sequence 1, Appl
11	777	96.4	157	3	US-09-854-208-19 Sequence 19, Appl
12	777	96.4	157	3	US-09-756-161A-1 Sequence 1, Appl
13	777	96.4	157	3	US-09-903-327A-7 Sequence 7, Appl
14	777	96.4	157	3	US-09-756-398B-1 Sequence 1, Appl
15	777	96.4	157	3	US-09-897-724-1 Sequence 1, Appl
16	777	96.4	157	4	US-10-010-229-1 Sequence 1, Appl
17	777	96.4	157	4	US-10-043-450-1 Sequence 1, Appl
18	777	96.4	157	4	US-10-044-534-1 Sequence 1, Appl
19	777	96.4	157	4	US-10-099-007A-1 Sequence 1, Appl
20	777	96.4	157	4	US-10-043-432-1 Sequence 1, Appl
21	777	96.4	157	4	US-10-119-621-1 Sequence 1, Appl
22	777	96.4	157	4	US-10-208-145-1 Sequence 1, Appl
23	777	96.4	157	4	US-10-262-630-9 Sequence 9, Appl
24	777	96.4	157	4	US-10-305-347A-9 Sequence 9, Appl
25	777	96.4	157	4	US-10-198-845-1 Sequence 1, Appl
26	777	96.4	157	4	US-10-327-488-1 Sequence 1, Appl
27	777	96.4	157	4	US-10-170-812-7 Sequence 7, Appl

28	777	96.4	157	4	US-10-187-121-1	Sequence 1, Appl
29	777	96.4	157	4	US-10-176-460-1	Sequence 1, Appl
30	777	96.4	157	4	US-10-186-559-1	Sequence 1, Appl
31	777	96.4	157	4	US-10-371-961-1	Sequence 1, Appl
32	777	96.4	157	4	US-10-200-795-1	Sequence 1, Appl
33	777	96.4	157	4	US-10-319-011-1	Sequence 1, Appl
34	777	96.4	157	4	US-10-371-443-1	Sequence 1, Appl
35	777	96.4	157	4	US-10-379-866-1	Sequence 1, Appl
36	777	96.4	157	4	US-10-371-962-1	Sequence 1, Appl
37	777	96.4	157	4	US-10-354-985-1	Sequence 1, Appl
38	777	96.4	157	4	US-10-397-786A-1	Sequence 1, Appl
39	777	96.4	157	4	US-10-665-971-1	Sequence 1, Appl
40	777	96.4	157	4	US-10-637-759-1	Sequence 1, Appl
41	777	96.4	157	4	US-10-327-619-1	Sequence 1, Appl
42	777	96.4	157	4	US-10-774-118-1	Sequence 1, Appl
43	777	96.4	157	4	US-10-394-471B-17	Sequence 17, Appl
44	777	96.4	157	5	US-10-861-685-13	Sequence 13, Appl
45	777	96.4	157	5	US-10-668-178-1	Sequence 1, Appl

ALIGNMENTS

RESULT 1

US-10-668-178-15  
; Sequence 15, Application US/10668178  
; Publication No. US20050013795A1  
; GENERAL INFORMATION:  
; APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO  
; APPLICANT: MAYUMI, Tadanori  
; APPLICANT: TSUTSUMI, Yasuo  
; APPLICANT: NAKAGAWA, Shinsaku  
; APPLICANT: IKEGAMI, Hakuo  
; TITLE OF INVENTION: Biologically-active conjugate  
; FILE REFERENCE: MAYUMI2A  
; CURRENT APPLICATION NUMBER: US/10/668,178  
; CURRENT FILING DATE: 2003-09-24  
; PRIOR APPLICATION NUMBER: JP 83509/2002  
; PRIOR FILING DATE: 2002-03-25  
; PRIOR APPLICATION NUMBER: JP 185387/2002  
; PRIOR FILING DATE: 2002-06-26  
; NUMBER OF SEQ ID NOS: 16  
; SOFTWARE: Patentin version 3.3  
; SEQ ID NO 15  
; LENGTH: 157  
; TYPE: PRT  
; ORGANISM: Artificial  
; FEATURE:  
; OTHER INFORMATION: Synthetic Construct  
US-10-668-178-15

Query Match 100.0%; Score 806; DB 5; Length 157;  
Best Local Similarity 100.0%; Pred. No. 6.3e-82; Indels 0; Gaps 0;  
Matches 157; Conservative 0; Mismatches 0

QY	1	VRSSSRTPSDAPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS	60
Db	1	VRSSSRTPSDAPVAHVANPQAEQQLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS	60
QY	61	QVLFSQGCPCSTHVLTLTHTISRIASVQTRVNLLSAISPQRETPEGALPWYEPYIL	120
Db	61	QVLFSQGCPCSTHVLTLTHTISRIASVQTRVNLLSAISPQRETPEGALPWYEPYIL	120
QY	121	GGVFQLETGDRLSAEINRPDYLDFAESGGVYFGIIAL	157
Db	121	GGVFQLETGDRLSAEINRPDYLDFAESGGVYFGIIAL	157

RESULT 2

US-10-668-178-16  
; Sequence 16, Application US/10668178  
; Publication No. US20050013795A1  
; GENERAL INFORMATION:  
US-10-668-178-16

; APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO  
; APPLICANT: MAYUMI, Tadanori  
; APPLICANT: TSUTSUMI, Yasuo  
; APPLICANT: NAKAGAWA, Shinsaku  
; APPLICANT: IKEGAMI, Hakuo  
; TITLE OF INVENTION: Biologically-active conjugate  
; FILE REFERENCE: MAYUMI2A  
; CURRENT APPLICATION NUMBER: US/10/668,178  
; CURRENT FILING DATE: 2003-09-24  
; PRIOR APPLICATION NUMBER: JP 83509/2002  
; PRIOR FILING DATE: 2002-03-25  
; PRIOR APPLICATION NUMBER: JP 185387/2002  
; PRIOR FILING DATE: 2002-06-26  
; NUMBER OF SEQ ID NOS: 16  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO 16  
; LENGTH: 157  
; TYPE: PRT  
; ORGANISM: Artificial  
; FEATURE:  
; OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)  
US-10-668-178-16

Query Match 100.0%; Score 806; DB 5; Length 157;  
Best Local Similarity 100.0%; Pred. No. 6.3e-82; Mismatches 0; Indels 0; Gaps 0;  
Matches 157; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 VRSSRTSDAPVAHVANPOAEGQQLWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60  
DB 1 VRSSRTSDAPVAHVANPOAEGQQLWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60  
QY 61 QVLFSGQGCPSHVLTHHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPIYL 120  
DB 61 QVLFSGQGCPSHVLTHHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPIYL 120  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIIAL 157  
DB 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIIAL 157

RESULT 3  
US-10-262-630-13  
; Sequence 13, Application US/10262630  
; Publication No. US20030138401A1  
; GENERAL INFORMATION:  
; APPLICANT: Dahiyat, Basail I.  
; APPLICANT: Desjarlais, John R.  
; APPLICANT: Filikov, Anton  
; APPLICANT: Muchhal, Unesh  
; APPLICANT: Tansey, Malu Lourdas G.  
; APPLICANT: Zalevsky, Jonathan  
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA  
; TITLE OF INVENTION: RELATED DISORDERS  
; FILE REFERENCE: A-68990-4/RFT/RMS/RWK  
; CURRENT APPLICATION NUMBER: US/10/262,630  
; CURRENT FILING DATE: 2003-01-27  
; PRIOR APPLICATION NUMBER: US 60/186,427  
; PRIOR FILING DATE: 2000-03-02  
; PRIOR APPLICATION NUMBER: US 09/945,150  
; PRIOR FILING DATE: 2001-08-31  
; PRIOR APPLICATION NUMBER: US 09/798,789  
; PRIOR FILING DATE: 2001-03-02  
; PRIOR APPLICATION NUMBER: US 09/981,289  
; PRIOR FILING DATE: 2001-10-15  
; NUMBER OF SEQ ID NOS: 33  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 13  
; LENGTH: 157  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic

; NAME/KEY: MISC FEATURE  
; LOCATION: (112)..(112)  
; OTHER INFORMATION: "Xaa" at position 112 can be Asp or Glu  
US-10-262-630-13  
Query Match 96.5%; Score 778; DB 4; Length 157;  
Best Local Similarity 96.2%; Pred. No. 8.7e-79; Mismatches 5; Indels 0; Gaps 0;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTSDAPVAHVANPOAEGQQLWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60  
DB 1 VRSSRTSDAPVAHVANPOAEGQQLWLNRRANALLANGVELRDNQLVVPSEGLYLIYS 60  
QY 61 QVLFSGQGCPSHVLTHHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPIYL 120  
DB 61 QVLFSGQGCPSHVLTHHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPIYL 120  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIIAL 157  
DB 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIIAL 157

RESULT 4  
US-10-354-985-2  
; Sequence 2, Application US/10354985  
; Publication No. US20040001802A1  
; GENERAL INFORMATION:  
; APPLICANT: MAYUMI, Tadanori et al.  
; TITLE OF INVENTION: PHYSIOLOGICALLY ACTIVE COMPLEX  
; FILE REFERENCE: MAYUMI-2  
; CURRENT APPLICATION NUMBER: US/10/354,985  
; CURRENT FILING DATE: 2003-01-31  
; PRIOR APPLICATION NUMBER: JP 083509/2002  
; PRIOR FILING DATE: 2002-03-25  
; PRIOR APPLICATION NUMBER: JP 1185387/2002  
; PRIOR FILING DATE: 2002-06-26  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 2  
; LENGTH: 157  
; TYPE: PRT  
; ORGANISM: Artificial  
; FEATURE:  
; OTHER INFORMATION: Variant protein of human tumor necrosis factor  
; FEATURE:  
; NAME/KEY: misc\_feature  
; LOCATION: (11)..(11)  
; OTHER INFORMATION: Xaa can be any naturally occurring amino acid  
; FEATURE:  
; NAME/KEY: misc\_feature  
; LOCATION: (65)..(65)  
; OTHER INFORMATION: Xaa can be any naturally occurring amino acid  
; FEATURE:  
; NAME/KEY: misc\_feature  
; LOCATION: (90)..(90)  
; OTHER INFORMATION: Xaa can be any naturally occurring amino acid  
; FEATURE:  
; NAME/KEY: misc\_feature  
; LOCATION: (98)..(98)  
; OTHER INFORMATION: Xaa can be any naturally occurring amino acid  
; FEATURE:  
; NAME/KEY: misc\_feature  
; LOCATION: (112)..(112)  
; OTHER INFORMATION: Xaa can be any naturally occurring amino acid  
; FEATURE:  
; NAME/KEY: misc\_feature  
; LOCATION: (128)..(128)  
; OTHER INFORMATION: Xaa can be any naturally occurring amino acid  
US-10-354-985-2

Query Match 96.5%; Score 778; DB 4; Length 157;  
Best Local Similarity 96.2%; Pred. No. 8.7e-79; Mismatches 6; Indels 0; Gaps 0;  
Matches 151; Conservative 0; Mismatches 6; Indels 0; Gaps 0;





```
RESULT 7
US-09-927-703-1
; Sequence 1, Application US/09927703
; Patent No. US20020022720A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Chrayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; Human Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-013
; CURRENT APPLICATION NUMBER: US/09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S. 07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-927-703-1

Query Match          96.4%; Score 777; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.1e-78;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKPVAVHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Qy 61 QVLFSGQGCPSPTHVLLTHTISRIASVYQTRVNLISAIASPCORETPEGAALPWYEPYIL 120
Db 61 QVLFKGGQCPSTHVLLTHTISRIASVYQTKVNLISAIKSPCORETPEGAAKPWYEPYIL 120
Qy 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIALL 157
Db 121 GGVFOLEKGRDLSAEINRPDYLDFAESQGVYFGIALL 157

RESULT 8
US-09-854-280-19
; Sequence 19, Application US/09854280
; Patent No. US2002005207A1
; GENERAL INFORMATION:
; APPLICANT: Chen, Jian
; APPLICANT: Filvaroff, Ellen
; APPLICANT: Goddard, Audrey
; APPLICANT: Gurney, Austin
; APPLICANT: Li, Hanzhong
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES THEREOF
; FILE REFERENCE: P1381R1C2
; CURRENT APPLICATION NUMBER: US/09/854,280
; CURRENT FILING DATE: 2001-05-10
; PRIOR APPLICATION NUMBER: US 09/311,832
; PRIOR FILING DATE: 1999-05-14
; PRIOR APPLICATION NUMBER: US 60/085,579
; PRIOR FILING DATE: 1998-05-15
; PRIOR APPLICATION NUMBER: US 60/113,621
; PRIOR FILING DATE: 1998-12-23
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 19
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-854-280-19

Query Match          96.4%; Score 777; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.1e-78;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKPVAVHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Qy 61 QVLFSGQGCPSPTHVLLTHTISRIASVYQTRVNLISAIASPCORETPEGAALPWYEPYIL 120
Db 61 QVLFKGGQCPSTHVLLTHTISRIASVYQTKVNLISAIKSPCORETPEGAAKPWYEPYIL 120
Qy 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIALL 157
Db 121 GGVFOLEKGRDLSAEINRPDYLDFAESQGVYFGIALL 157

RESULT 9
US-09-934-465-13
; Sequence 13, Application US/09934465
; Patent No. US20020102233A1
; GENERAL INFORMATION:
; APPLICANT: Ashkenazi, Avi J.
; TITLE OF INVENTION: APO-2 LIGAND
; FILE REFERENCE: 11669.22US03
; CURRENT APPLICATION NUMBER: US/09/934,465
; CURRENT FILING DATE: 2001-08-21
; PRIOR APPLICATION NUMBER: 08/584,031
; PRIOR FILING DATE: 1996-01-09
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-934-465-13

Query Match          96.4%; Score 777; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.1e-78;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db 1 VRSSRTPSDKPVAVHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Qy 61 QVLFSGQGCPSPTHVLLTHTISRIASVYQTRVNLISAIASPCORETPEGAALPWYEPYIL 120
Db 61 QVLFKGGQCPSTHVLLTHTISRIASVYQTKVNLISAIKSPCORETPEGAAKPWYEPYIL 120
Qy 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIALL 157
Db 121 GGVFOLEKGRDLSAEINRPDYLDFAESQGVYFGIALL 157
```







**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:47 ; Search time 9.75 Seconds  
(without alignments)  
745.303 Million cell updates/sec

Title: US-10-668-178-15  
Perfect score: 806  
Sequence: 1 VRSSRTPSDPAVHVANP.....RPDYLDFAESGVYFGIALL 157

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 235405 seqs, 46284737 residues

Total number of hits satisfying chosen parameters: 235405

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications\_AA\_New:\*  
1: /SIDSS/ptodata/1/pubpaa/US06\_NEW\_PUB.pep.\*  
2: /SIDSS/ptodata/1/pubpaa/US06\_NEW\_PUB.pep.\*  
3: /SIDSS/ptodata/1/pubpaa/US07\_NEW\_PUB.pep.\*  
4: /SIDSS/ptodata/1/pubpaa/US08\_NEW\_PUB.pep.\*  
5: /SIDSS/ptodata/1/pubpaa/US08\_NEW\_PUB.pep.\*  
6: /SIDSS/ptodata/1/pubpaa/US09\_NEW\_PUB.pep.\*  
7: /SIDSS/ptodata/1/pubpaa/US09\_NEW\_PUB.pep.\*  
8: /SIDSS/ptodata/1/pubpaa/US10\_NEW\_PUB.pep.\*  
9: /SIDSS/ptodata/1/pubpaa/US10\_NEW\_PUB.pep.\*  
10: /SIDSS/ptodata/1/pubpaa/US11\_NEW\_PUB.pep.\*  
11: /SIDSS/ptodata/1/pubpaa/US11\_NEW\_PUB.pep.\*  
12: /SIDSS/ptodata/1/pubpaa/US60\_NEW\_PUB.pep.\*

ALIGNMENTS				ALIGNMENTS			
RESULT 1				US-11-010-954-1			
				; Sequence 1, Application US/11010954			
				; Publication No. US20050249735A1			
				; GENERAL INFORMATION:			
				; APPLICANT: Le. Junming			
				; APPLICANT: Wilcek, Jan			
				; APPLICANT: Daddona, Peter			
				; APPLICANT: Ghayeb, John			
				; APPLICANT: Knight, David			
				; APPLICANT: Siegel, Scott			
				; APPLICANT: Shealy, David			
				; TITLE OF INVENTION: Methods of Treating Ankylosing Spondylitis Using Anti-TNF Antibio			
				; TITLE OF INVENTION: and Peptides of Human Tumor Necrosis Factor			
				; FILE REFERENCE: 0975.1005-043			
				; CURRENT APPLICATION NUMBER: US/11/010,954			
				; CURRENT FILING DATE: 2004-12-13			
				; PRIOR APPLICATION NUMBER: US 10/637,759			
				; PRIOR FILING DATE: 2003-08-08			
				; PRIOR APPLICATION NUMBER: US 09/920,137			
				; PRIOR FILING DATE: 2001-08-01			
				; PRIOR APPLICATION NUMBER: US 09/927,703			
				; PRIOR FILING DATE: 2001-08-10			
				; PRIOR APPLICATION NUMBER: US 09/756,398			
				; PRIOR FILING DATE: 2001-01-08			
				; PRIOR APPLICATION NUMBER: US 60/236,826			
				; PRIOR FILING DATE: 2000-09-29			
				; PRIOR APPLICATION NUMBER: US 60/223,360			
				; PRIOR FILING DATE: 2000-08-07			
				; NUMBER OF SEQ ID NOS: 30			
				; SOFTWARE: FastSeq for Windows Version 4.0			
				; SEQ ID NO 1			
				; LENGTH: 157			
				; TYPE: PRT			
				; ORGANISM: Homo sapiens			
				US-11-010-954-1			
				Query Match 96.4%; Score 777; DB 11; Length 157;			
				Best Local Similarity 96.2%; Pred. No. 8e-76;			
				Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;			
Qy				1 VRSSRTPSDPAVHVANPQAEGQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60			
Db				1 VRSSRTPSDKPVHVANPQAEGQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60			

Qy	61	QVLFSGQCPCPTHLLTHTTISRIASVYQTRVLLSAIASPCQRETPEGAEALPWTEPIYL	120
Db	61	QVLFPGQCPCPTHLLTHTTISRIASVYQTRVLLSAIKSPCQRETPEGAEAKPWTEPIYL	120
Qy	121	GGVQLETGDRLSAEINRPDYLDFAESGVQVFGIIAL	157
Db	121	GGVQLEKGDRLSAEINRPDYLDFAESGVQVFGIIAL	157

## RESULT 2

```

US-11-053-750-1
; Sequence 1, Application US/11053750
; Publication No. US20050255104A1
; GENERAL INFORMATION:
; APPLICANT: Le, Jumming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Grayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Scallion, Bernard
; TITLE OF INVENTION: Methods of Treating Psoriasis Using
; TITLE OF INVENTION: Anti-TNF Receptor Fusion Proteins
; FILE REFERENCE: 0975.1005-045
; CURRENT APPLICATION NUMBER: US/11/053,750
; CURRENT FILING DATE: 2005-02-07
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 09/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-053-750-1

```

	Query Match	96.4%	Score 777	DB 11	Length 157
	Best Local Similarity	96.2%	Pred. No. 8e-76		
	Matches 151	Conservative 1	Mismatches 5	Indels 0	Gaps 0
Qy	1	VRSSRTPSDAPVAHVANPQAEQOLWNRANALLANGVELRDNLQVPSSEGLYLIYS	60		
Db	1	VRSSRTPSDKPAHVANPQAEQOLWNRANALLANGVELRDNLQVPSSEGLYLIYS	60		
Qy	61	QVLFSGGCGSTHYLLTHTTISRIVSYQTRVNLLSAISPQCRTPPEGAALPWYEPYIL	120		
Db	61	QVLFKGGCGSTHYLLTHTTISRIVSYQTKVNLLSAISKPCQCRTPPEGAAPWYEPYIL	120		
Qy	121	GGVFQLETGDRLSAEINRPDYLDFAESGVYFGIIAL	157		
Db	121	GGVFOLEKGRDLSAEINRPDYLDFAESGVYFGIIAL	157		

### RESULT 3

```

US-11-053-749-1
; Sequence 1, Application US/11053749
; Publication No. US20050260201A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Grayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Scallion, Bernard
; TITLE OF INVENTION: Methods of Treating Rheumatoid Arthritis
; TITLE OF INVENTION: Using Anti-TNF Receptor Fusion Proteins
; FILE REFERENCE: 0975.1005-040
; CURRENT APPLICATION NUMBER: US/11/053,749
; CURRENT FILING DATE: 2005-02-07
; PRIOR APPLICATION NUMBER: US/09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; REMAINING PRIOR Application data removed - See File Wrapper
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-053-749-1

Query Match          96.4%; Score 777; DB 11; Length 157
Best Local Similarity 96.2%; Pred. No. 8e-76; 5; Indels
Matches 151; Conservative 1; Mismatches

Qy 1 VRSSRTSPDPVAHVANPQAEGLQWLNRRNALLANGVEURDNLQV
Db 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRNALLANGVEURDNLQV
Qy 61 QVLFSGGQCPSTHVLTTTISRIVSYQTRVNLLSAISPQRETPEG
Db 61 QVLFQGGQCPSTHVLTTTISRIVSYQTKVNLLSAISKPCQRETPEG
Qy 121 GGVFQLETGDRLSAEINRPDYLDFAESGGVYFGIIAL 157
Db 121 GGVFQLEKGRDLSAEINRPDYLDFAESGGVYFGIIAL 157

RESULT 4
US-11-108-001-12
; Sequence 12, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John R.
; APPLICANT: Steed, Paul Michael
; APPLICANT: Zalevsky, Jonathan
; APPLICANT: Szymkowski, David Edmund
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE
; TITLE OF INVENTION: RELATED DISORDERS

```





```
; PRIOR FILING DATE: 1993-02-02
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-179-359-1

Query Match          96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTSPSDKPAHVAVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTTISRIAVSYQTRVNLLSAIASPCORETPEGAEALPWTEPIYL 120
   |||||
Db 61 QVLFKGQGCPSHTVLLTHTTISRIAVSYQTKVNLLSAIAKSPCORETPEGAEAKPWTEPIYL 120
   |||||

QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||||
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||||

RESULT 7
US-11-181-030-1
; Sequence 1, Application US/11181030
; Publication No. US20060018906A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods for Treating Sarcoidosis Using
; FILE OF INVENTION: Anti-TNF Antibodies and Fragments Thereof
; FILE REFERENCE: 0975.1005-055
; CURRENT APPLICATION NUMBER: US/11/181,030
; CURRENT FILING DATE: 2005-07-13
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1993-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-181-030-1

Query Match          96.4%; Score 777; DB 11; Length 157;
```

```
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTSPSDKPAHVAVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTTISRIAVSYQTRVNLLSAIASPCORETPEGAEALPWTEPIYL 120
   |||||
Db 61 QVLFKGQGCPSHTVLLTHTTISRIAVSYQTKVNLLSAIAKSPCORETPEGAEAKPWTEPIYL 120
   |||||

QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||||
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||||

RESULT 8
US-11-182-033-1
; Sequence 1, Application US/11182033
; Publication No. US20060018907A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Shealy, David
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of Human
; FILE OF INVENTION: Tumor Necrosis Factor
; FILE REFERENCE: 0975.1005-044
; CURRENT APPLICATION NUMBER: US/11/182,033
; CURRENT FILING DATE: 2005-07-14
; PRIOR APPLICATION NUMBER: US 10/637,759
; PRIOR FILING DATE: 2003-08-08
; PRIOR APPLICATION NUMBER: US 09/920,137
; PRIOR FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 60/236,826
; PRIOR FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: US 60/223,360
; PRIOR FILING DATE: 2000-08-07
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-182-033-1

Query Match          96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||
Db 1 VRSSRTSPSDKPAHVAVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||

QY 61 QVLFSGQGCPSHTVLLTHTTISRIAVSYQTRVNLLSAIASPCORETPEGAEALPWTEPIYL 120
   |||||
Db 61 QVLFKGQGCPSHTVLLTHTTISRIAVSYQTKVNLLSAIAKSPCORETPEGAEAKPWTEPIYL 120
   |||||

QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||||
Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||||

RESULT 9
US-11-195-589-1
; Sequence 1, Application US/11195589
```

Publication No. US20060024310A1  
GENERAL INFORMATION:  
APPLICANT: Le, Junming  
APPLICANT: Vilcek, Jan  
APPLICANT: Daddona, Peter  
APPLICANT: Grayeb, John  
APPLICANT: Knight, David  
APPLICANT: Siegel, Scott  
TITLE OF INVENTION: Methods of Treating TNFa-Mediated  
Tissue Injury Using Anti-TNF Antibodies and Peptides  
FILE REFERENCE: 0975.1005-042  
CURRENT APPLICATION NUMBER: US/11/195,589  
CURRENT FILING DATE: 2005-08-02  
PRIOR APPLICATION NUMBER: US 09/927,703  
PRIOR FILING DATE: 2001-08-10  
PRIOR APPLICATION NUMBER: US 09/756,398  
PRIOR FILING DATE: 2001-01-08  
PRIOR APPLICATION NUMBER: US 09/133,119  
PRIOR FILING DATE: 1998-08-12  
PRIOR APPLICATION NUMBER: US 08/570,674  
PRIOR FILING DATE: 1995-12-11  
PRIOR APPLICATION NUMBER: US 08/324,799  
PRIOR FILING DATE: 1994-10-18  
PRIOR APPLICATION NUMBER: US 08/192,102  
PRIOR FILING DATE: 1994-02-04  
PRIOR APPLICATION NUMBER: US 08/192,861  
PRIOR FILING DATE: 1994-02-04  
PRIOR APPLICATION NUMBER: US 08/192,093  
PRIOR FILING DATE: 1994-02-04  
PRIOR APPLICATION NUMBER: US 08/010,406  
PRIOR FILING DATE: 1993-01-29  
PRIOR APPLICATION NUMBER: US 08/013,413  
PRIOR FILING DATE: 02-02-1993  
Remaining Prior Application data removed - See File Wrapper or PALM.  
NUMBER OF SEQ ID NOS: 30  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 1  
LENGTH: 157  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-11-195-589-1

Query Match 96.4%; Score 777; DB 11; Length 157;  
Best Local Similarity 96.2%; Pred. No. 8e-76;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 1 VRSSRTSDKPAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGGCPSTHVLTHHTISRIAVSVOTRVNLLSAISPCQRETPEGAEALPWYEPYIL 120  
Db 61 QVLFSGGCPSTHVLTHHTISRIAVSVOTRVNLLSAISPCQRETPEGAEALPWYEPYIL 120  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGGVYFGIALL 157  
Db 121 GGVFOLEKGRLSAEINRPDYLDFAESGGVYFGIALL 157

RESULT 10  
US-11-082-544-4  
Sequence 4, Application US/11082544  
Publication No. US20050249706A1  
GENERAL INFORMATION:  
APPLICANT: Bermudes, G.  
APPLICANT: King, I.  
APPLICANT: Clairmont, C.  
APPLICANT: Lin, S.  
APPLICANT: Belcourt, M.  
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR  
TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES  
FILE REFERENCE: 8002-059  
CURRENT APPLICATION NUMBER: US/11/082,544

CURRENT FILING DATE: 2005-03-17  
PRIOR APPLICATION NUMBER: US/09/645,415  
PRIOR FILING DATE: 2000-08-24  
PRIOR APPLICATION NUMBER: 60/157,581  
PRIOR FILING DATE: 1999-10-04  
PRIOR APPLICATION NUMBER: 60/157,637  
PRIOR FILING DATE: 1999-10-04  
NUMBER OF SEQ ID NOS: 61  
SOFTWARE: FastSeq for Windows Version 3.0  
SEQ ID NO 4  
LENGTH: 158  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-11-082-544-4  
Query Match 96.4%; Score 777; DB 11; Length 158;  
Best Local Similarity 96.2%; Pred. No. 8.1e-76;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 2 VRSSRTSDKPAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 61  
QY 61 QVLFSGGCPSTHVLTHHTISRIAVSVOTRVNLLSAISPCQRETPEGAEALPWYEPYIL 120  
Db 62 QVLFSGGCPSTHVLTHHTISRIAVSVOTRVNLLSAISPCQRETPEGAEALPWYEPYIL 121  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGGVYFGIALL 157  
Db 122 GGVFOLEKGRLSAEINRPDYLDFAESGGVYFGIALL 158

RESULT 11  
US-11-108-001-2  
Sequence 2, Application US/11108001  
Publication No. US20050265962A1  
GENERAL INFORMATION:  
APPLICANT: Desjarlais, John R.  
APPLICANT: Steed, Paul Michael  
APPLICANT: Zalevsky, Jonathan  
APPLICANT: Szymkowski, David Edmund  
TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA  
FILE REFERENCE: A-68990-7  
CURRENT APPLICATION NUMBER: US/11/108,001  
CURRENT FILING DATE: 2005-04-14  
PRIOR APPLICATION NUMBER: US 10/963,994  
PRIOR FILING DATE: 2004-10-12  
PRIOR APPLICATION NUMBER: US 09/798,789  
PRIOR FILING DATE: 2001-03-02  
PRIOR APPLICATION NUMBER: US 09/945,150  
PRIOR FILING DATE: 2001-08-31  
PRIOR APPLICATION NUMBER: US 09/981,289  
PRIOR FILING DATE: 2001-10-15  
PRIOR APPLICATION NUMBER: US 10/262,630  
PRIOR FILING DATE: 2002-09-30  
PRIOR APPLICATION NUMBER: US 60/553,908  
PRIOR FILING DATE: 2004-03-17  
PRIOR APPLICATION NUMBER: US 60/510,430  
PRIOR FILING DATE: 2003-10-10  
PRIOR APPLICATION NUMBER: US 60/509,960  
PRIOR FILING DATE: 2003-10-09  
PRIOR APPLICATION NUMBER: US 60/528,275  
PRIOR FILING DATE: 2003-12-08  
PRIOR APPLICATION NUMBER: US 60/523,647  
PRIOR FILING DATE: 2003-11-20  
Remaining Prior Application data removed - See File Wrapper or PALM.  
NUMBER OF SEQ ID NOS: 13  
SOFTWARE: PatentIn version 3.3  
SEQ ID NO 2  
LENGTH: 164  
TYPE: PRT  
ORGANISM: Homo sapiens

US-11-108-001-2

Query Match 96.4%; Score 777; DB 11; Length 164;  
Best Local Similarity 96.2%; Pred. No. 8.5e-76;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 8 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 67  
QY 61 QVLFSGQGCPSHTVLLTHTISRIVSYQTRVNLLSAISPCCQRETPEGAALPWYEPIYL 120  
DB 68 QVLFKGQGCPSHTVLLTHTISRIVSYQTKVNLLSAISPCCQRETPEGAALPWYEPIYL 127  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 128 GGVFOLEKGRLSAEINRPDYLDFAESGQVYFGIALL 164

RESULT 12

US-10-490-953-35  
; Sequence 35, Application US/10490953  
; Publication No. US20060088908A1  
; GENERAL INFORMATION:  
; APPLICANT: SKERRA, ARNE  
; APPLICANT: SCHLEHUBER, STEFFEN  
; TITLE OF INVENTION: MUTAINS OF HUMAN NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN AND  
; FILE REFERENCE: 029029-0104  
; CURRENT APPLICATION NUMBER: US/10/490,953  
; PRIOR FILING DATE: 2004-03-29  
; PRIOR APPLICATION NUMBER: PCT/EP02/10490  
; PRIOR FILING DATE: 2002-09-18  
; PRIOR APPLICATION NUMBER: PCT/EP02/04223  
; PRIOR FILING DATE: 2002-04-16  
; PRIOR APPLICATION NUMBER: PCT/EP01/11213  
; PRIOR FILING DATE: 2001-09-27  
; NUMBER OF SEQ ID NOS: 39  
; SOFTWARE: Patentin version 3.2  
; SEQ ID NO 35  
; LENGTH: 170  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; FEATURE:  
; NAME/KEY: CHAIN  
; LOCATION: (1)..(170)  
; OTHER INFORMATION: fusion protein of tumor necrosis factor alpha and  
; OTHER INFORMATION: affinity tag  
; FEATURE:  
; NAME/KEY: MISC FEATURE  
; LOCATION: (1)..(13)  
; OTHER INFORMATION: Affinity tag Arg-Gly-Ser-His(6)-Gly(3)  
; FEATURE:  
; NAME/KEY: MISC FEATURE  
; LOCATION: (14)..(170)  
; OTHER INFORMATION: mature tumor necrosis factor alpha

US-10-490-953-35

Query Match 96.4%; Score 777; DB 8; Length 170;  
Best Local Similarity 96.2%; Pred. No. 8.9e-76;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 14 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 73  
QY 61 QVLFSGQGCPSHTVLLTHTISRIVSYQTRVNLLSAISPCCQRETPEGAALPWYEPIYL 120  
DB 74 QVLFKGQGCPSHTVLLTHTISRIVSYQTKVNLLSAISPCCQRETPEGAALPWYEPIYL 133

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 134 GGVFOLEKGRLSAEINRPDYLDFAESGQVYFGIALL 170

RESULT 13

US-11-082-544-8  
; Sequence 8, Application US/11082544  
; Publication No. US20050249706A1  
; GENERAL INFORMATION:  
; APPLICANT: Bermudes, G.  
; APPLICANT: King, I.  
; APPLICANT: Clairmont, C.  
; APPLICANT: Lin, S.  
; APPLICANT: Belcourt, M.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR  
; TITLE OF INVENTION: TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES  
; FILE REFERENCE: 8002-059  
; CURRENT APPLICATION NUMBER: US/11/082,544  
; CURRENT FILING DATE: 2005-03-17  
; PRIOR APPLICATION NUMBER: US/09/645,415  
; PRIOR FILING DATE: 2000-08-24  
; PRIOR APPLICATION NUMBER: 60/157,581  
; PRIOR FILING DATE: 1999-10-04  
; PRIOR APPLICATION NUMBER: 60/157,637  
; PRIOR FILING DATE: 1999-10-04  
; NUMBER OF SEQ ID NOS: 61  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 8  
; LENGTH: 180  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Fusion construct

US-11-082-544-8

Query Match 96.4%; Score 777; DB 11; Length 180;  
Best Local Similarity 96.2%; Pred. No. 9.5e-76;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 24 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 83  
QY 61 QVLFSGQGCPSHTVLLTHTISRIVSYQTRVNLLSAISPCCQRETPEGAALPWYEPIYL 120  
DB 84 QVLFKGQGCPSHTVLLTHTISRIVSYQTKVNLLSAISPCCQRETPEGAALPWYEPIYL 143  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 144 GGVFOLEKGRLSAEINRPDYLDFAESGQVYFGIALL 180

RESULT 14

US-10-523-328-1  
; Sequence 1, Application US/10523328  
; Publication No. US20060078944A1  
; GENERAL INFORMATION:  
; APPLICANT: Kuai, Jun  
; APPLICANT: Lin, Lih-Ling  
; APPLICANT: Wooters, Joseph L.  
; APPLICANT: Nickbarg, Elliot  
; TITLE OF INVENTION: METHODS AND REAGENTS RELATING TO INFLAMMATION AND APOPTOSIS  
; FILE REFERENCE: WYTH-FOI-001  
; CURRENT APPLICATION NUMBER: US/10/523,328  
; CURRENT FILING DATE: 2005-02-01  
; PRIOR APPLICATION NUMBER: 60/400,410  
; PRIOR FILING DATE: 2002-08-01  
; NUMBER OF SEQ ID NOS: 20  
; SOFTWARE: Patentin version 3.2  
; SEQ ID NO 1  
; LENGTH: 233  
; TYPE: PRT

```

; ORGANISM: Homo sapiens
US-10-523-328-1
Query Match          96.4%; Score 777; DB 9; Length 233;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   |||||
Db 77 VRSSRTPSDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 136
   |||||

QY 61 QVLFSGQGCPSHTVLTHITISRIASVYQTRVNLLSAIASPCQRETPEGAEALPWYEPYIL 120
   |||||
Db 137 QVLFKGQGCPSHTVLTHITISRIASVYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPYIL 196
   |||||

QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||||
Db 197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233
   |||||

RESULT 15
US-11-246-387-8
; Sequence 8, Application US/11246387
; Publication No. US20060078994A1
; GENERAL INFORMATION:
; APPLICANT: Argos Therapeutics, Inc.
; APPLICANT: Kirin Beer Kabushiki Kaisha
; APPLICANT: Healey, Don
; APPLICANT: Tcherepanova, Irina
; APPLICANT: Adams, Melissa
; APPLICANT: Hinohara, Atsushi
; TITLE OF INVENTION: MATURE DENDRITIC CELL COMPOSITIONS AND METHODS FOR CULTURING SAME
; FILE REFERENCE: MER030
; CURRENT APPLICATION NUMBER: US/11/246,387
; CURRENT FILING DATE: 2005-10-07
; PRIOR APPLICATION NUMBER: US 60/522,512
; PRIOR FILING DATE: 2004-10-07
; NUMBER OF SEQ ID NOS: 26
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 8
; LENGTH: 233
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-246-387-8

Query Match          96.4%; Score 777; DB 11; Length 233;
Best Local Similarity 96.2%; Pred. No. 1.3e-75;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   |||||
Db 77 VRSSRTPSDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 136
   |||||

QY 61 QVLFSGQGCPSHTVLTHITISRIASVYQTRVNLLSAIASPCQRETPEGAEALPWYEPYIL 120
   |||||
Db 137 QVLFKGQGCPSHTVLTHITISRIASVYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPYIL 196
   |||||

QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
   |||||
Db 197 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 233
   |||||

Search completed: May 5, 2006, 11:28:34
Job time : 10.75 secs
```

**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:07 ; Search time 74.25 Seconds  
(without alignments)  
929.057 Million cell updates/sec

Title: US-10-668-178-16  
Perfect score: 806  
Sequence: 1 VRSSRTSPDAPVHVANP.....RPDYLDFABSGQVFGIAT 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_21.\*  
1: Geneseq1980s.\*  
2: Geneseq1990s.\*  
3: Geneseq2000s.\*  
4: Geneseq2001s.\*  
5: Geneseq2002s.\*  
6: Geneseq2003as.\*  
7: Geneseq2003bs.\*  
8: Geneseq2004s.\*  
9: Geneseq2005s.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	778	96.5	157	2	Aar62465 Tumour ne
2	778	96.5	157	8	Adh10159 Human tum
3	777	96.4	157	1	Aap60524 Sequence
4	777	96.4	157	1	Aap70095 Tumour ne
5	777	96.4	157	1	Aap70144 Amino aci
6	777	96.4	157	2	Aar14270 Human TNF
7	777	96.4	157	2	Aar14112 Neutrophil
8	777	96.4	157	2	Aar27747 Human tum
9	777	96.4	157	2	Aar42679 Human Tum
10	777	96.4	157	2	Aar38069 Human TNF
11	777	96.4	157	2	Aar62463 Tumour ne
12	777	96.4	157	2	Aar60243 Human TNF
13	777	96.4	157	2	Aar57437 Human tum
14	777	96.4	157	2	Aar28530 Human TNF
15	777	96.4	157	2	Aaw40819 Human tum
16	777	96.4	157	2	Abb08912 Human tum
17	777	96.4	157	2	Aay23242 Human.tum
18	777	96.4	157	4	Aag79124 Amino aci
19	777	96.4	157	4	Aae10848 Human tum
20	777	96.4	157	4	Aag67761 Amino aci
21	777	96.4	157	4	Aab74783 Wild type
22	777	96.4	157	5	Aae18373 Human mat
23	777	96.4	157	5	Aam51166 Tumour ne
24	777	96.4	157	5	Abb76561 Human tum

25	777	96.4	157	5	ABG70571	Abg70571 Human tum
26	777	96.4	157	5	ABP54869	Abp54869 Human tum
27	777	96.4	157	5	AAB47940	Aab47940 Human tum
28	777	96.4	157	5	ABP54787	Abp54787 Human tum
29	777	96.4	157	5	ABG76348	Abg76348 Human ful
30	777	96.4	157	6	ABU09888	Abu09888 Human tum
31	777	96.4	157	6	ABG72947	Abg72947 Human tum
32	777	96.4	157	6	ABG75765	Abg75765 Human TNF
33	777	96.4	157	6	ABG75772	Abg75772 Human TNF
34	777	96.4	157	6	ABU63586	Abu63586 Human tum
35	777	96.4	157	7	ADC46568	Adc46568 Human tum
36	777	96.4	157	7	ADC61354	Adc61354 Human TNF
37	777	96.4	157	7	ADC81608	Adc81608 Human tum
38	777	96.4	157	7	ADD44654	Add44654 Human tum
39	777	96.4	157	7	ADD89878	Add89878 Human tum
40	777	96.4	157	7	ADRO6773	Adro6773 Human ant
41	777	96.4	157	7	ABW02400	Abw02400 Human tum
42	777	96.4	157	7	ADSE96348	Adse96348 Human tum
43	777	96.4	157	7	ABW02035	Abw02035 Human tum
44	777	96.4	157	7	ADF91146	Adf91146 Human tum
45	777	96.4	157	7	ADG27428	Adg27428 Human tum

ALIGNMENTS

RESULT 1  
AAR62465  
ID AAR62465 standard; protein; 157 AA.  
XX  
AC AAR62465;  
XX  
DT 25-MAR-2003 (revised)  
DT 05-JUN-1995 (first entry)  
XX  
DE Tumour necrosis factor-alpha mutein K65A.  
XX  
KW Human; tumour necrosis factor; TNF; TNF-a; expression; mutain; mutation;  
KW receptor; affinity; therapeutic; diagnostic; cancer therapy; cancer;  
KW obesity; septic shock; meningitis.  
XX  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT Misc-difference 65  
FT /label= Lys to Ala  
XX  
PN EP619372-Al.  
XX  
PD 12-OCT-1994.  
XX  
PF 17-MAR-1994; 94EP-00104154.  
XX  
PR 29-MAR-1993; 93EP-00810224.  
XX  
PA (HOFF ) HOFFMANN LA ROCHE & CO AG F.  
XX  
PI Banner D, Lesslauer W, Loetscher H, Stueber D;  
XX  
XX WPI; 1994-311810/39.  
DR N-PSDB; AAQ87684.  
XX  
PT New human TNF-a muteins with higher affinity for p75-TNFR - useful e.g.  
PT for cancer therapy, treatment of obesity and toxic shock.  
XX  
PS Claim 4; Page 15; 53pp; English.  
XX  
CC The amino acid sequence of the mutated human tumour necrosis factor alpha  
CC (TNF-a). The mutein differs from the wild type at position 65 with a  
CC change from a Lys residue to a Ala residue. The gene encoding the protein  
CC is placed in the expression plasmid pDS56/RBSII and called  
CC pDS56/RBSII.SphI-TNFA(K65A). The expression of the wild type or mutein  
CC proteins is regulated by the lac repressor present on the plasmid pRBP4.  
CC

CC The gene encoding the protein is mutated at specific sites resulting in a  
 CC series of mutated proteins (AAR62464-83 and AAR63093-103). The biological  
 CC activities of TNF are mediated via specific receptors of mol. wt. 55 and  
 CC 75 kDa called p55-TNF-R and p75-TNF-R respectively. The mutated proteins  
 CC presented have a higher affinity for the human p75-TNF receptor than for  
 CC the p55-TNF receptor. The mutated proteins can be used in a variety of  
 CC therapeutic or diagnostic applications including cancer therapy.  
 CC treatment of obesity, septic shock or bacterial meningitis. (Updated on  
 CC 25-MAR-2003 to correct PN field.)  
 XX  
 XX

Sequence 157 AA;

Query Match 96.5%; Score 778; DB 2; Length 157;  
 Best Local Similarity 96.2%; Pred. No. 1.4e-71;  
 Matches 151; Conservative 2; Mismatches 4; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
 DB 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
 QY 61 QVLFSGQGPCSTHVLTTHTTISRIVSYQTRVNLSSAISPQORETPEGAEALPWTEPIYL 120  
 DB 61 QVLFAGQGPCSTHVLTTHTTISRIVSYQTKVNLSSAISPQORETPEGAEALPWTEPIYL 120  
 QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
 DB 121 GGVFOLEKGRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 2  
 ADH10159  
 ID ADH10159 standard; protein; 157 AA.  
 AC  
 AC ADH10159;  
 XX  
 XX 11-MAR-2004 (first entry)  
 XX  
 XX Human tumour necrosis factor variant protein.  
 DE  
 XX  
 XX TNF; tumour necrosis factor; polyethylene glycol; cytostatic; cancer;  
 KW human; variant.  
 KW  
 XX Homo sapiens.  
 OS  
 XX

Key Location/Qualifiers  
 FT Misc-difference 11  
 FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu  
 FT Misc-difference 65  
 FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu  
 FT Misc-difference 90  
 FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu  
 FT Misc-difference 98  
 FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu  
 FT Misc-difference 112  
 FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu  
 FT Misc-difference 128  
 FT /label= Asp, Ala, Arg, Ser, Thr, Pro, Met or Leu  
 XX  
 EP1354893-A2.  
 XX  
 XX 22-OCT-2003.  
 XX  
 XX 30-JAN-2003; 2003EP-00250587.  
 XX  
 XX 25-MAR-2002; 2002JP-00083509.  
 PR  
 PR 26-JUN-2002; 2002JP-00185387.  
 XX  
 XX (HAYB ) HAYASHIBARA SEIBUTSU KAGAKU.  
 PA (MAYU/) MAYUMI T.  
 PA (TSUT/) TSUTSUMI Y.  
 PA (NAKA/) NAKAGAWA S.  
 XX  
 XX Mayumi T, Tsutsumi Y, Nakagawa S, Ikegami H;  
 PI

XX WPI; 2004-063952/07.  
 DR  
 XX A physiologically active complex which comprises a protein part with  
 PT tumor necrosis factor activity and a high molecular part has higher  
 PT stability and retention in living bodies and is useful to treat disease,  
 PT particularly cancer.  
 XX  
 XX Claim 2; SEQ ID NO 2; 18pp; English.  
 PS  
 XX  
 XX The present sequence represents a physiologically active complex which  
 CC comprises a proteinaceous part with tumour necrosis factor (TNF) activity  
 CC and a high molecular part bound artificially to the N-terminus of the  
 CC proteinaceous part. The proteinaceous part comprises the sequence  
 CC selected from ADH10159 and the molecular part has a molecular weight of  
 CC 500-5000 Da and is a homopolymer of polyethylene glycol or a copolymer of  
 CC ethylene glycol and its derivatives. The invention is used to treat  
 CC susceptible disease, particularly cancer. The complex has a higher  
 CC stability and longer retention time in living bodies than intact tumour  
 CC necrosis factor. The present sequence represents a human TNF variant  
 CC protein.  
 XX  
 XX Sequence 157 AA;

Query Match 96.5%; Score 778; DB 8; Length 157;  
 Best Local Similarity 96.2%; Pred. No. 1.4e-71;  
 Matches 151; Conservative 0; Mismatches 6; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
 DB 1 VRSSRTSPDXPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
 QY 61 QVLFSGQGPCSTHVLTTHTTISRIVSYQTRVNLSSAISPQORETPEGAEALPWTEPIYL 120  
 DB 61 QVLFAGQGPCSTHVLTTHTTISRIVSYQTKVNLSSAISPQORETPEGAEALPWTEPIYL 120  
 QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
 DB 121 GGVFOLEXGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 3  
 AAP60524  
 ID AAP60524 standard; protein; 157 AA.  
 XX  
 XX AAP60524;  
 XX  
 XX 25-MAR-2003 (revised)  
 DT 07-AUG-1991 (first entry)  
 XX  
 XX Sequence of tumour necrosis factor (TNF).  
 DE  
 XX Anticancer agent; antitumour; antimalarial; tumour necrosis factor.  
 KW  
 XX Oryctolagus cuniculus.  
 OS  
 XX WO8603751-A.  
 XX  
 XX 03-JUL-1986.  
 XX  
 XX 19-DEC-1985; 85WO-EP000721.  
 XX  
 XX 21-DEC-1984; 84US-00684595.  
 PR 09-OCT-1985; 85US-00785847.  
 PR 09-OCT-1986; 86WO-US002133.  
 XX  
 XX (BIOJ ) BIOGEN NV.  
 PA (FIER/) FIERIS W C.  
 PA (ALLE/) ALLET B.  
 PA (BIOJ ) BIOGEN INC.  
 XX  
 XX Fiers WC, Franssen LM, Tavernier JHL, Marmenout ALM, Vanderheyd J;  
 PI Allet B;



XX WPI: 1986-182891/28.  
DR N-PSDB; AAN60442.  
XX Mammalian tumour necrosis factors - produced by culturing pro-karyotic  
PT hosts transformed with recombinant DNA.  
XX  
PS Claim 11; Page 66; 93pp; English.  
XX  
XX TNF-like polypeptides and compans. are produced by the fermentation of  
CC host cells transformed with at least one DNA sequence which codes for a  
CC mammalian TNF-like polypeptide operatively linked to an expression  
CC control sequence in the transformed host. (Updated on 25-MAR-2003 to  
CC correct PA field.)  
XX  
SQ Sequence 157 AA;  
  
Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 1.8e-71;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTPSDAPVAHVAVNPAEQQLWLNRRANALLANGVELRDNLVVPSEGLYIYS 60  
DB 1 VRSSRTPSDKPVAHVAVNPAEQQLWLNRRANALLANGVELRDNLVVPSEGLYIYS 60  
  
QY 61 QVLFSGGCGPSTHLLTHTISRIAVSYQTRVNLLSAISPCCQRETPEGAEALPWPYPIYL 120  
DB 61 QVLFKGCGPSTHLLTHTISRIAVSYQTRVNLLSAISPCCQRETPEGAEALPWPYPIYL 120  
  
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
  
RESULT 4  
AAP70095  
ID AAP70095 standard; protein; 157 AA.  
XX  
XX AAP70095;  
XX  
DT 04-APR-1991 (first entry)  
XX  
DE Tumour necrosis factor.  
XX  
KW Plasmid; tumour necrosis factor; antitumour agent.  
XX  
OS Escherichia coli.  
XX  
XX EP220482-A.  
XX  
PD 06-MAY-1987.  
XX  
XX 19-SEP-1986; 86EP-00112941.  
XX  
XX 30-SEP-1985; 85JP-00217740.  
XX  
XX (SUNR ) SUNTORY LTD.  
XX  
XX Oshima T, Tanaka S, Matsukura S;  
XX  
XX WPI: 1987-124161/18.  
XX  
XX New plasmid for efficient tumour necrosis factor prodn. - comprises  
PT plasmid with DNA fragment having phage-gene derived promoter region and E  
PT coli derived transcription termination sequence.  
XX  
XX Claim 6; Page 17-18; 31pp; English.  
XX  
XX Tumour necrosis factor can be expressed using a plasmid comprising a  
CC phage gene-derived promoter region upstream of the TNF structural gene  
CC and an E.coli trp a gene terminator joined immediately downstream of a  
CC base sequence encoding the termination of translation of the structural  
CC gene. The plasmid is capable of efficient expression of TNF on a large  
CC gene.

CC scale and with high purity. The transformants may achieve a TNF activity  
CC 40-300 times as great as with prior transformants. TNF may comprise at  
CC least 40% of total cell protein. The plasmid lacks a pBR322 derived  
CC repressor of primer gene. TNF is an antitumour agent  
XX  
SQ Sequence 157 AA;  
  
Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 1.8e-71;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTPSDAPVAHVAVNPAEQQLWLNRRANALLANGVELRDNLVVPSEGLYIYS 60  
DB 1 VRSSRTPSDKPVAHVAVNPAEQQLWLNRRANALLANGVELRDNLVVPSEGLYIYS 60  
  
QY 61 QVLFSGGCGPSTHLLTHTISRIAVSYQTRVNLLSAISPCCQRETPEGAEALPWPYPIYL 120  
DB 61 QVLFKGCGPSTHLLTHTISRIAVSYQTRVNLLSAISPCCQRETPEGAEALPWPYPIYL 120  
  
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
  
RESULT 5  
AAP70144  
ID AAP70144 standard; protein; 157 AA.  
XX  
XX AAP70144;  
XX  
DT 03-OCT-2002 (revised)  
DT 13-MAY-1991 (first entry)  
XX  
XX Amino acid sequence of mature tumour necrosis factor (TNF).  
XX  
XX Tumour necrosis factor analogue; lymphokine; anti-tumour.  
XX  
XX Homo sapiens.  
XX  
XX EP220966-A.  
XX  
XX 06-MAY-1987.  
XX  
XX 30-OCT-1986; 86EP-00308484.  
XX  
XX 30-OCT-1985; 85US-00792815.  
XX  
XX 22-MAY-1986; 86US-00866213.  
XX  
XX (CETU ) CETUS CORP.  
XX  
XX Lin LSL, Dorin G, Yamamoto R, Hanisch WH, Thomson JW, Wolfe SN;  
XX  
XX WPI: 1987-124486/18.  
XX  
XX Purified recombinant tumour necrosis factor compen. - obt'd. by using a  
PT hydrophobic matrix to retain the factor followed by chromatographic  
PT elution.  
XX  
XX Disclosure; Fig 3; 25pp; English.  
XX  
XX Specific examples of TNF analogues include N-terminally deleted species  
CC of the protein, including those having deletions of the N-terminal  
CC 1,2,3,4,5,6,7,8,9,10,14, and 31 AA's of the SQ in AAP70144. Muteins  
CC lacking up to and including the first ten AA's at the N-terminus have  
CC been found to have comparable or greater specific activities as compared  
CC to the TNF of the SQ shown in AAP70144. Other muteins of TNF covered by  
CC the method of the invention include species of TNF in which any or all of  
CC the cysteine residues have been converted to serine or other neutral AA's  
CC for example, glycine or alanine. In general, neutral AA replacements of  
CC the cysteine at position 69 result in active TNF proteins. It appears  
CC that the cysteine at position 101 is also dispensable. (Updated on 03-OCT  
CC -2002 to add missing OS field.)  
XX

```
SQ Sequence 157 AA;
Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
QY 1 VRSSRTSPDAPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
DB 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
QY 61 QVLFSGQGPCSTHVLTTHTISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
DB 61 QVLFSGQGPCSTHVLTTHTISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGVQVYFGIIAL 157
DB 121 GGVFQLEKGRDLSAEINRPDYLDFAESGVQVYFGIIAL 157

RESULT 6
AAR14270
ID AAR14270 standard; peptide; 157 AA.
AC AAR14270;
DT 09-JAN-1992 (first entry)
DE Human TNF.
KW Tumour necrosis factor; cytotoxic; metastasis.
OS Homo sapiens.
FH Key Location/Qualifiers
FT Peptide 1..18
FT /label= #301
FT Peptide 13..26
FT /label= #306
FT Peptide 22..40
FT /label= #307
FT Peptide 43..58
FT /label= #302
FT /note= "claim 2"
FT Peptide 54..68
FT /label= #308
FT /note= "claim 3"
FT Peptide 63..83
FT /label= #304
FT Peptide 70..80
FT /note= "claim 7"
FT Peptide 73..94
FT /label= #309
FT /note= "claim 5"
FT Peptide 79..89
FT /label= #323
FT Peptide 81..94
FT /note= "claim 6"
FT Peptide 94..109
FT /label= #303
FT Peptide 111..120
FT /label= #275
FT Peptide 132..150
FT /label= #305
FT /note= "claim 4"
XX WO9114702-A.
XX
XX
XX 03-OCT-1991.
XX
XX 19-MAR-1990; 90AU-00009156.
XX
XX 19-MAR-1990; 90AU-00009156.
XX
XX 22-NOV-1990; 90AU-00003477.
XX

XX (PEPT-) PEPTIDE TECHN LTD.
XX
XX Rathjen D, Aston R;
XX
XX WPI; 1991-310534/42.
XX
XX New cytotoxic and/or proliferation-inhibiting polypeptide fragments -
XX useful in treatment of tumours with reduced side effects.
XX
XX Claim 1; Fig 1; 35pp; English.
XX
XX The peptide fragments indicated in the feature table have cytotoxic
XX and/or inhibition of proliferation effects on tumour cells. The peptides
XX may be co-administered with whole TNF alpha or with a cyto-toxic drug
XX
XX Sequence 157 AA;
Query Match 96.4%; Score 777; DB 2; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
QY 1 VRSSRTSPDAPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
DB 1 VRSSRTSPDKPVAHVANPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLYS 60
QY 61 QVLFSGQGPCSTHVLTTHTISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
DB 61 QVLFSGQGPCSTHVLTTHTISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGVQVYFGIIAL 157
DB 121 GGVFQLEKGRDLSAEINRPDYLDFAESGVQVYFGIIAL 157

RESULT 7
AAR14112
ID AAR14112 standard; peptide; 157 AA.
XX
AC AAR14112;
XX
DT 11-DEC-1991 (first entry)
XX
DE Neutrophil stimulating peptide.
XX
KW hTNP; AIDS; cancer; inflammatory syndromes; rheumatoid arthritis;
XX adult respiratory distress syndrome; human tumour necrosis factor.
XX
OS Synthetic.
XX
XX Key Location/Qualifiers
FH Peptide 1..18
FT /label= peptide 301
FT Peptide 13..26
FT /label= peptide 306
FT Peptide 22..40
FT /label= peptide 307
FT Peptide 43..58
FT /label= peptide 302
FT Peptide 54..68
FT /label= peptide 308
FT /note= "neutrophil stimulating activity and selective
FT effects on neutrophil degranulation"
FT Peptide 63..83
FT /label= peptide 304
FT /note= "neutrophil stimulating activity"
FT Peptide 70..80
FT /label= peptide 395
FT /note= "neutrophil stimulating activity"
FT Peptide 73..94
FT /label= peptide 309
FT /note= "neutrophil stimulating activity"
FT Peptide 76..84
```

FT Peptide /label= peptide 393  
 FT 79..89  
 FT /label= peptide 323  
 FT 81..94  
 FT /label= peptide 394  
 FT 84..94  
 FT /label= peptide 396  
 FT 94..109  
 FT /label= peptide 303  
 FT 111..120  
 FT /label= peptide 275  
 FT 132..150  
 FT /label= peptide 305  
 XX WO9113908-A.  
 PN  
 XX  
 XX 19-SEP-1991.  
 PD  
 XX  
 XX 12-MAR-1990; 90AU-00009065.  
 PF  
 XX  
 XX 12-MAR-1990; 90AU-00009065.  
 PR  
 XX (PEPT-) PEPTIDE TECHN LTD.  
 PA  
 XX Rathjen DA, Ferrante A;  
 PI  
 XX WPI; 1991-295580/40.  
 DR  
 XX New neutrophil stimulating peptide(s) derived from human TNF - useful for  
 FT treating depressed neutrophil function in e.g. AIDS and cancer, and  
 PT inflammatory syndrome in e.g. rheumatoid arthritis.  
 PT  
 XX Disclosure; Fig 1; 27pp; English.  
 PS  
 XX The amino acid sequence codes for human tumour necrosis factor. Peptides  
 CC derived from this sequence have neutrophil stimulating activity. The  
 CC peptides were synthesised using the Fmoc-polyamide method of solid  
 CC peptide synthesis. Treatment with the peptides can be used to restore  
 CC depressed or aberrant neutrophil activity without causing the side  
 CC effects associated with the therapeutic use of the whole TNF molecule.  
 CC Such peptides can be used in the treatment of individuals suffering from  
 CC AIDS, cancer or inflammatory syndromes e.g. rheumatoid arthritis or adult  
 CC respiratory distress syndrome  
 CC  
 XX Sequence 157 AA;  
 SQ  
 Query Match 96.4%; Score 777; DB 2; Length 157;  
 Best Local Similarity 96.2%; Pred. No. 1.8e-71;  
 Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDAPVAHVAVNPQAGQQLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
 DB 1 VRSSRTSPDKPVAHVAVNPQAGQQLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
 QY 61 QVLFSGQGCPSHTVLLTHTTSRIAVSYQTRVNLLSAISPCQRETPGAEALPWYEPYIL 120  
 DB 61 QVLFSGQGCPSHTVLLTHTTSRIAVSYQTRVNLLSAISPCQRETPGAEALPWYEPYIL 120  
 QY 121 GGVFQLEGTGRLGAEINRPDYLPFAESGVYFGIIL 157  
 DB 121 GGVFQLEKGRDLGAEINRPDYLPFAESGVYFGIIL 157  
 RESULT 8  
 AAR27747  
 ID AAR27747 standard; protein; 157 AA.  
 XX  
 AC AAR27747;  
 XX  
 XX 25-MAR-2003 (revised)  
 DT 03-MAR-1993 (first entry)  
 XX  
 XX Human tumour necrosis factor alpha.

XX hTNF; monoclonal antibody; sepsis syndrome, cachexia, microbial;  
 KW infection; rheumatoid arthritis; inflammation.  
 XX Homo sapiens.  
 OS  
 XX Key Location/Qualifiers  
 FH Region 1..20  
 FT /note= "putative receptor binding portion"  
 FT Region 11..13  
 FT /note= "putative receptor binding portion"  
 FT Region 37..42  
 FT /note= "putative receptor binding portion"  
 FT Region 49..57  
 FT /note= "putative receptor binding portion"  
 FT Region 59..80  
 FT /note= "epitope for Ab binding"  
 FT Region 87..108  
 FT /note= "epitope for Ab binding"  
 FT Region 155..157  
 FT /note= "putative receptor binding portion"  
 XX WO9216553-A1.  
 PN  
 XX 01-OCT-1992.  
 PD  
 XX 18-MAR-1992; 92WO-US002190.  
 PF  
 XX 18-MAR-1991; 91US-00670827.  
 PR  
 XX (UUNY ) UNIV NEW YORK STATE.  
 PA (CENZ ) CENTOCOR INC.  
 XX  
 XX Le J, Vilcek J, Daddona PE, Ghayeb J, Knight DM, Siegel SA;  
 PI WPI; 1992-349155/42.  
 XX  
 XX Monoclonal and chimeric antibodies to human TNF - useful for treating  
 FT sepsis syndrome, cachexia, microbial infections, rheumatoid arthritis,  
 PT inflammation, etc.  
 PT  
 XX Claim 22; Page 77; 105pp; English.  
 PS  
 XX Anti-TNF antibodies were prepd. which bound to an epitope of at least 5  
 CC amino acids of residues 87-108 or both of residues 59-80 and 87-108 of  
 CC human tumour necrosis factor alpha, but do not bind known or putative  
 CC receptor binding portions of TNF, such as those shown in the features  
 CC table. The antibodies may be prepd. by hybridomas or recombinantly and  
 CC may be used for in vivo treatment and diagnosis of human pathologies  
 CC associated with TNF e.g. sepsis syndrome, cachexia, circulatory collapse  
 CC and shock resulting from acute or chronic bacterial infection, acute and  
 CC parasitic or infectious processes, including bacterial, viral and fungal  
 CC infections, acute and chronic immune and autoimmune pathologies such as  
 CC sarcoidosis and Crohn's disease, vascular inflammatory pathologies such  
 CC as disseminated intravascular coagulation, graft vs. host disease,  
 CC Kawasaki's disease and malignant tumours. The antibodies may be used in  
 CC combination with TNF therapy, e.g. cancer therapy to remove the undesired  
 CC side effects. They may also be used to remove TNF from fluids, tissues or  
 CC cells, to detect or quantitate TNF and for blocking TNF activity in vivo,  
 CC in situ and in vitro. (Updated on 25-MAR-2003 to correct PN field.)  
 CC (Updated on 25-MAR-2003 to correct PA field.)  
 XX  
 SQ Sequence 157 AA;  
 Query Match 96.4%; Score 777; DB 2; Length 157;  
 Best Local Similarity 96.2%; Pred. No. 1.8e-71;  
 Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
 QY 1 VRSSRTSPDAPVAHVAVNPQAGQQLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
 DB 1 VRSSRTSPDKPVAHVAVNPQAGQQLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60  
 QY 61 QVLFSGQGCPSHTVLLTHTTSRIAVSYQTRVNLLSAISPCQRETPGAEALPWYEPYIL 120

```

Db      61 QVLFKGGCPSTHLLTHTTISRIAVSYQTKVNLLSAISKPCQRETPEGAELPWTEPIYL 120
QY      121 GGVFQLETDGRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db      121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 9
AAR42679
ID AAR42679 standard; protein; 157 AA.
AC AAR42679;
XX
XX 25-MAR-2003 (revised)
DT 19-APR-1994 (first entry)
XX
XX Human Tumour Necrosis Factor alpha.
XX
XX Plasmid pDS56/RBSII,Sphi-TNF-alpha; mutein; inflammation; obesity;
KW septic shock; treatment; mutagenic PCR; cytokine.
XX
XX Homo sapiens.
XX
XX EP563714-A2.
XX
XX 06-OCT-1993.
XX
XX 20-MAR-1993; 93EP-00104591.
XX
XX 02-APR-1992; 92EP-00810249.
XX
XX (HOFF ) HOFFMANN LA ROCHE & CO AG F.
PA
XX
XX Lesslauer W, Loetscher H, Stueber D;
PI
XX
XX WPI: 1993-313109/40.
DR N-PSDB; AA049223.
XX
XX New human Tumour Necrosis Factor mutein(s) - have amino acid change at
PT position 86, for selective binding affinity to the P55-TNF-Receptor.
PT
XX
XX Disclosure; Fig 1b; 29pp; English.
XX
XX The human TNF-alpha expression plasmid pDS56/RBSII,Sphi-TNF-alpha was
CC used as the source of TNF-alpha gene for preparing the various TNF-alpha
CC muteins of the invention. Mutagenic PCR was used on the wild-type
CC template to introduce amino acid substitutions at sites affecting binding
CC specificity. The muteins retain binding activity to the human p55-TNF-
CC Receptor but do not bind to the human p75-TNF- Receptor. Consequently,
CC the muteins have lower systemic toxicity and only elicit some of the
CC activities of wild-type TNF-a. (Updated on 25-MAR-2003 to correct PN
CC field.)
XX
XX Sequence 157 AA;
QY      Query Match          96.4%; Score 777; DB 2; Length 157;
      Best Local Similarity 96.2%; Pred. No. 1.8e-71;
      Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY      1 VRSSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db      1 VRSSSRTPSDKPVAVHVNANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY      61 QVLFSGGCGPSTHLLTHTTISRIAVSYQTKVNLLSAISKPCQRETPEGAELPWTEPIYL 120
Db      61 QVLFKGGCPSTHLLTHTTISRIAVSYQTKVNLLSAISKPCQRETPEGAELPWTEPIYL 120

QY      121 GGVFQLETDGRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db      121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 11
AAR62463
ID AAR62463 standard; protein; 157 AA.
XX
XX AAR62463;
XX
XX 25-MAR-2003 (revised)
DT 02-JUN-1995 (first entry)
XX

```

```

RESULT 10
AAR38069
ID AAR38069 standard; protein; 157 AA.
XX
XX AAR38069;
XX
XX 14-OCT-1993 (first entry)
XX
XX Human TNF-alpha.
XX
XX Withdrawal symptom; tumour necrosis factor; narcotic; nicotine; morphine;
KW thymosin; alcohol.
XX
XX Homo sapiens.
XX
XX JP05117161-A.
PN
XX
XX 14-MAY-1993.
XX
XX 23-OCT-1991; 91JP-00337489.
XX
XX 23-OCT-1991; 91JP-00337489.
XX
XX (SOMA/) SOMA G.
PA (MIZU/) MIZUNO D.
XX
XX WPI: 1993-191442/24.
XX
XX Drugs for treating alcohol, morphine narcotics or nicotine withdrawal
PT symptoms - contg. tumour necrosis factor-alpha, thymosin tumour necrosis
PT factor fused cpd. or murine tumour necrosis factor-alpha prepd. from
PT macrophage of human or animal.
XX
XX Disclosure; Page 2-3; 5pp; Japanese.
XX
XX Drugs acting on withdrawal symptoms contain TNF, esp. TNF-alpha (AAR38069
CC and AAR38077), rTNF-S-AM1 (AAR38070), rTNF-S-AM2 (AAR38071), thymosin-
CC beta4-TNF fused cpd. (AAR38072-76). The drugs are effective in treatment
CC of withdrawal symptoms caused by habitual use of alcohol, morphine
CC narcotics or nicotine in humans or animals (e.g. swine, dog, cat,
CC chicken). The drugs may be administered as TNF at a dose of 10ng-10mg
CC orally or 5ng-1mg i.v. or 50ng-50mg percutaneously a day for a human
CC adult. In animals, the drugs may be administered according to the human
CC dosage (1/50 per kg body wt.)
XX
XX Sequence 157 AA;
QY      Query Match          96.4%; Score 777; DB 2; Length 157;
      Best Local Similarity 96.2%; Pred. No. 1.8e-71;
      Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY      1 VRSSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db      1 VRSSSRTPSDKPVAVHVNANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY      61 QVLFSGGCGPSTHLLTHTTISRIAVSYQTKVNLLSAISKPCQRETPEGAELPWTEPIYL 120
Db      61 QVLFKGGCPSTHLLTHTTISRIAVSYQTKVNLLSAISKPCQRETPEGAELPWTEPIYL 120

QY      121 GGVFQLETDGRLSAEINRPDYLDFAESGQVYFGIIAL 157
Db      121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 11
AAR62463
ID AAR62463 standard; protein; 157 AA.
XX
XX AAR62463;
XX
XX 25-MAR-2003 (revised)
DT 02-JUN-1995 (first entry)
XX

```



```

Db      1 VRSSRTPSDKPVAVHVNPAEQGQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
QY      61 QVLFSGQGPCSTHVLTTHTISRIAVSYQTRVNLLSAISPQRETPEGAEALPWYEPIYL 120
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db      61 QVLFKGQGPCSTHVLTTHTISRIAVSYQTKVNLLSAISKPCQRETPEGAEAKPWYEPIYL 120
QY      121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db      121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 13
AAR57437
ID AAR57437 standard; protein; 157 AA.
XX AC
XX AC
XX 25-MAR-2003 (revised)
DT 13-MAR-1995 (first entry)
XX XX
DE Human tumour necrosis factor (wild-type).
XX
KW Tumour necrosis factor; TNF; mutein; variant; antitumour; toxicity;
KW haemorrhagic necrosis; antiviral; parasite; malaria.
XX
OS Homo sapiens.
XX

FH Key Location/Qualifiers
FT Misc-difference 1..7
FT Note= "one or more of the first 7 N-terminal amino acids
FT may be deleted"
FT
FT Misc-difference 4
FT Note= "Ser pref. replaced by Arg"
FT
FT Misc-difference 5
FT Note= "Ser pref. replaced by Arg"
FT
FT Misc-difference 6
FT Note= "Arg pref. replaced by Ala"
FT
FT Misc-difference 7
FT Note= "Thr pref. replaced by His or Lys"
FT
FT Misc-difference 8
FT Note= "Pro pref. replaced by Arg"
FT
FT Misc-difference 9
FT Note= "Ser pref. replaced by Lys"
FT
FT Misc-difference 10
FT Note= "Asp pref. replaced by Arg"
FT
FT Misc-difference 38
FT Note= "Ala pref. replaced by Asp"
FT
FT Misc-difference 39
FT Note= "Asn pref. replaced by Asp, Lys or Val"
FT
FT Misc-difference 40
FT Note= "Gly pref. replaced by Asp, Lys or Val"
FT
FT Misc-difference 41
FT Note= "Val pref. replaced by Ser"
FT
FT Misc-difference 52
FT Note= "Ser pref. replaced by Ile, Glu or Lys"
FT
FT Misc-difference 53
FT Note= "Glu pref. replaced by Lys or Leu"
FT
FT Misc-difference 54
FT Note= "Gly pref. replaced by Asp or Val"
FT
FT Misc-difference 56
FT Note= "Tyr pref. replaced by Phe or Glu"
FT
FT Misc-difference 85
FT Note= "Val pref. replaced by Glu or Arg"
FT
FT Misc-difference 86
FT Note= "Ser pref. replaced by Leu, Lys, Glu or Asp"
FT
FT Misc-difference 87
FT Note= "Tyr pref. replaced by Glu or Arg"
FT
FT Misc-difference 88
FT Note= "Gln pref. replaced by Glu"
FT
FT Misc-difference 127
FT Note= "Glu pref. replaced by Ala, Val or Lys"
FT
FT Misc-difference 128
FT Note= "Lys pref. replaced by Ala, Val or Glu"
FT

```

```

FT Misc-difference 129
FT Note= "Gly pref. replaced by Glu, Lys or Val"
FT
FT Misc-difference 156
FT Note= "Ala pref. replaced by Asp"
FT
FT Misc-difference 157
FT Note= "Leu pref. replaced by Phe"
FT
XX DE4404124-A1.
PN
XX 11-AUG-1994.
PD
XX 09-FEB-1994; 94DE-04404124.
PF
XX 09-FEB-1993; 93KR-00001751.
PR
XX (HANI-) HANIL SYNTHETIC FIBER CO LTD.
XX Shin H, Shin N, Lee I, Kang S;
XX WPI; 1994-250457/31.
DR N-PSDB; AAQ67089.
XX
XX New tumour necrosis factor muteins and related DNA - also vectors and
XX transformed cells, with increased antitumour activity and lower toxicity
XX than wild type protein.
XX
XX Claim 1; Page 20; 23pp; German.
XX
XX TNF muteins are claimed, in which at least one amino acid at positions 4-
XX 10, 38-41, 52-54, 56, 85-88, 127-129, 156 or 157 is exchanged for a
XX different amino acid. Opt. one or more of the first 7 N-terminal amino
XX acids is deleted. TNF causes haemorrhagic necrosis of tumours; has anti-
XX viral activity and inactivates some species of malarial parasites. The
XX muteins have increased antitumour activity and lower toxicity than wild-
XX type protein. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ Sequence 157 AA;
Query Match 96.4%; Score 777; DB 2; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.8e-71;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
QY 1 VRSSRTPSDAPVAHVANPAEQGQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 1 VRSSRTPSDKPVAVHVNPAEQGQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
QY 61 QVLFSGQGPCSTHVLTTHTISRIAVSYQTRVNLLSAISPQRETPEGAEALPWYEPIYL 120
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 61 QVLFKGQGPCSTHVLTTHTISRIAVSYQTKVNLLSAISKPCQRETPEGAEAKPWYEPIYL 120
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 157
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

RESULT 14
AAW28530
ID AAW28530 standard; protein; 157 AA.
XX AC
XX AAW28530;
XX
XX 25-MAR-2003 (revised)
DT 11-JAN-1998 (first entry)
XX
XX Human TNF.
XX
XX TNF; tumour necrosis factor; Crohn's disease; CA2 antibody.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
FH 11..13
FT Region /label= epitope
FT

```

FT Region 37..42  
 FT /label= epitope  
 FT Region 49..57  
 FT /label= epitope  
 FT Region 59..80  
 FT /label= epitope  
 FT Region 87..108  
 FT /label= epitope  
 FT Region 155..157  
 FT /label= epitope

XX US5656272-A.

XX 12-AUG-1997.

XX 04-FEB-1994; 94US-00192102.

XX 18-MAR-1991; 91US-00670827.

PR 18-MAR-1992; 92US-00853606.

PR 11-SEP-1992; 92US-00943852.

PR 26-JAN-1993; 93US-00010406.

PR 02-FEB-1993; 93US-00013413.

XX (CENZ ) CENTOCOR INC.

PA (UINY-) UNIV NEW YORK MEDICAL CENT.

XX Dadonna P, Le J, Ghayeb J, Knight D, Siegel SA, Vilcek J;

XX WPI; 1997-414547/38.

XX Treatment of Crohn's disease - by administering humanised cA2 antibody

PT specific for tumour necrosis factor.

XX Claim 4 and 6; Fig 13; 87pp; English.

XX An anti-TNF chimeric antibody may be administered for treating TNF-alpha

CC mediated Crohn's disease in a human. The anti-TNF chimeric antibody

CC competitively inhibits binding of TNF to monoclonal antibody cA2. The

CC anti-TNF antibody does not bind to one or more epitopes in amino acids 11

CC -13, 37-42, 49-57 or 155-157 of hTNF, but does bind to one or more

CC epitopes included in amino acids between 87-108 or both 87-108 and 59-80

CC of hTNF. (Updated on 25-MAR-2003 to correct PF field.)

XX Sequence 157 AA;

Query Match 96.4%; Score 777; DB 2; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.8e-71;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDAPVAHVAVNPQAGQQLWLNRRANALLANGVELRDQLVVPSEGLYLIYS 60

DB 1 VRSSRTSPDAPVAHVAVNPQAGQQLWLNRRANALLANGVELRDQLVVPSEGLYLIYS 60

QY 61 QVLFSGGCGPSTHLLTHTTISRIAVSYQTRVNLSSAIASPCQRETPEGAEALPWYPIYL 120

DB 61 QVLFKGCGCPSTHLLTHTTISRIAVSYQTRVNLSSAIKSPCQRETPEGAEAKWPYPIYL 120

QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGGQYVFGIIAL 157

DB 121 GGVFQLEKGRLSAEINRPDYLDFAESGGQYVFGIIAL 157

RESULT 15

AAW40819

ID AAW40819 standard; peptide; 157 AA.

XX AAW40819;

XX 02-APR-1998 (first entry)

XX Human tumour necrosis factor.

XX Tumour necrosis factor; human; hTNF; rheumatoid arthritis; malignancy;

KW

KW anti-TNF chimeric antibody; inhibitor; therapy; diagnosis; infection;  
 KW chronic inflammatory disease; autoimmune disease;  
 KW neurodegenerative disease.

OS Homo sapiens.

XX Key Location/Qualifiers

FT Misc-difference 59..80

FT /note= "epitope recognised by antibody of the invention"

FT Misc-difference 87..108

FT /note= "epitope recognised by antibody of the invention"

XX US5698195-A.

XX 16-DEC-1997.

XX 18-OCT-1994; 94US-00324799.

XX 18-MAR-1991; 91US-00670827.

PR 18-MAR-1992; 92US-00853606.

PR 11-SEP-1992; 92US-00943852.

PR 29-JAN-1993; 93US-00010406.

PR 02-FEB-1993; 93US-00013413.

PR 04-FEB-1994; 94US-00132061.

PR 04-FEB-1994; 94US-00192093.

PR 04-FEB-1994; 94US-00192102.

XX (CENZ ) CENTOCOR INC.

PA (UINY-) UNIV NEW YORK MEDICAL CENT.

XX Siegel S, Knight D, Vilcek J, Ghayeb J, Le J, Daddona P;

XX WPI; 1998-051431/05.

XX Treatment of rheumatoid arthritis - with chimeric antibody directed

PT against tumour necrosis factor.

XX Claim 3; Col 97-100; 93pp; English.

XX This sequence represents the human tumour necrosis factor (hTNF).

CC Epitopes of this sequence are recognised by the antibody used in the

CC method of the invention. The method of the invention is for treating

CC rheumatoid arthritis in a human, and comprises administering to the human

CC an effective TNF-inhibiting amount of an anti-TNF chimeric antibody (Ab),

CC where the anti-TNF chimeric Ab comprises a non-human variable region or a

CC TNF antigen binding portion of the variable region, and a human constant

CC region. The method can be used for in vitro, in situ and/or in vivo

CC diagnosis and/or treatment of animal cells, tissues or pathologies

CC associated with the presence of TNF. The Abs used in the method can also

CC be used for removing TNF from a solution or cells, inhibiting one or more

CC biological activities of TNF in vitro, in situ or in vitro. Such removal

CC can include treatment methods of the invention for alleviating symptoms

CC or pathologies involving TNF, such as bacterial, viral or parasitic

CC infections, chronic inflammatory diseases, autoimmune diseases,

CC malignancies and/or neurodegenerative diseases

XX Sequence 157 AA;

Query Match 96.4%; Score 777; DB 2; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.8e-71;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDAPVAHVAVNPQAGQQLWLNRRANALLANGVELRDQLVVPSEGLYLIYS 60

DB 1 VRSSRTSPDAPVAHVAVNPQAGQQLWLNRRANALLANGVELRDQLVVPSEGLYLIYS 60

QY 61 QVLFSGGCGPSTHLLTHTTISRIAVSYQTRVNLSSAIASPCQRETPEGAEALPWYPIYL 120

DB 61 QVLFKGCGCPSTHLLTHTTISRIAVSYQTRVNLSSAIKSPCQRETPEGAEAKWPYPIYL 120

QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGGQYVFGIIAL 157

DB 121 GGVFQLEKGRLSAEINRPDYLDFAESGGQYVFGIIAL 157

Search completed: May 5, 2006, 11:26:32  
Job time : 77.25 secs

---



GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:42 ; Search time 18 Seconds  
(without alignments)  
839.224 Million cell updates/sec

Title: US-10-668-178-16

Perfect score: 806

Sequence: 1 VRSSKTPSDAPVHVANP.....RPDYLDFASSGVYFGIIAL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

PIR 80:\*

1: PIR1:\*

2: PIR2:\*

3: PIR3:\*

4: PIR4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	777	96.4	233	1 QWHUN	tumor necrosis fac
2	770	95.5	233	1 S22052	tumor necrosis fac
3	710	88.1	233	2 S11688	tumor necrosis fac
4	695	86.2	234	1 JQ1344	tumor necrosis fac
5	675.5	83.8	232	1 S12606	tumor necrosis fac
6	637.5	79.1	234	1 A25451	tumor necrosis fac
7	632.5	78.5	235	1 QWMSN	tumor necrosis fac
8	629	78.0	185	2 S52715	tumor necrosis fac
9	629	78.0	233	1 S24642	tumor necrosis fac
10	627	77.8	234	1 JH0529	tumor necrosis fac
11	626.5	77.7	235	2 I54490	tumor necrosis fac
12	622.5	77.2	193	2 S06192	tumor necrosis fac
13	617.5	76.6	235	2 JU0029	tumor necrosis fac
14	257.5	31.9	197	1 JH0309	tumor necrosis fac
15	252	31.3	204	1 S24641	lymphotoxin - bovi
16	246.5	30.6	204	1 S17289	tumor necrosis fac
17	240	29.8	202	1 JN0869	tumor necrosis fac
18	238.5	29.6	202	1 B27303	tumor necrosis fac
19	214.5	26.6	205	1 QWHUX	lymphotoxin alpha
20	166	20.6	244	2 A46066	lymphotoxin beta - fas ligand - rat
21	165.5	20.5	278	2 A53062	Fas ligand - mouse
22	159.5	19.8	279	2 A53062	Fas ligand - human
23	151	18.7	281	2 I38707	lymphotoxin-beta - CD40 ligand - mous
24	142	17.6	306	2 S21738	CD40 ligand - huma
25	128	15.9	260	2 S53476	CD40 ligand - bovi
26	121	15.0	261	2 S53090	hypothetical prote
27	118	14.6	261	2 AD2009	glutamate-ammonia
28	81.5	10.1	887	2 A53371	
29	78.5	9.7	724	2 A53371	

#### RESULT 1

QWHUN

tumor necrosis factor alpha precursor [validated] - human

N;Alternate names: cachectin; TNFA

C;Species: Homo sapiens (man)

C;Date: 28-Aug-1985 #sequence revision 28-Aug-1985 #text change 09-Jul-2004

C;Accession: A93585; S36153; A93351; A44189; B61478; I53311; S62610; I54522; A01646; B2

R;Nedwin, G.E.; Naylor, S.L.; Sakaguchi, A.Y.; Smith, D.; Jarrett-Nedwin, J.; Pennica, J.

Nucleic Acids Res. 13, 6361-6373, 1985

A;Title: Human lymphotoxin and tumor necrosis factor genes: structure, homology and chr

A;Reference number: A93585; MUID:86016093; PMID:2995927

A;Accession: A93585

A;Molecule type: DNA

A;Residues: 1-233 <NED>

A;Cross-references: UNIPROT:P01375; UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g3

R;Iris, F.J.M.; Bougueleret, L.; Frieur, S.; Caterina, D.; Primas, G.; Perrot, V.; Jurk

Nature Genet. 3, 137-145, 1993

A;Title: Dense Alu clustering and a potential new member of the NKkappaB family within

A;Reference number: S36152; MUID:93272029; PMID:8499947

A;Accession: S36153

A;Status: nucleic acid sequence not shown; translation not shown

A;Molecule type: DNA

A;Residues: 1-233 <IRI>

A;Cross-references: UNIPARC:UPI000000D745; EMBL:Z15026; NID:g37211; PIDN:CAA78745.1; PI

A;Note: the nucleotide sequence was submitted to the EMBL Data Library, August 1992

R;Pennica, D.; Nedwin, G.E.; Hayflick, J.S.; Seeburg, P.H.; Derynck, R.; Palladino, M.A

Nature 312, 724-729, 1984

A;Title: Human tumour necrosis factor: precursor structure, expression and homology to

A;Reference number: A93351; MUID:85086244; PMID:6392892

A;Accession: A93351

A;Molecule type: mRNA

A;Residues: 1-233 <PEN>

A;Cross-references: UNIPARC:UPI000000D745; GB:X02910; GB:X02159; NID:g37209; PIDN:CRA26

A;Note: this protein was isolated from the monocyte-like cell line HL-60 from a promyel

R;Wang, A.M.; Creasey, A.A.; Ladner, M.B.; Lin, L.S.; Strickler, J.; Van Arsdel, J.N.;

Science 228, 149-154, 1985

A;Title: Molecular cloning of the complementary DNA for human tumor necrosis factor.

A;Reference number: A44189; MUID:85142190; PMID:3856324

A;Accession: A44189

A;Molecule type: mRNA

A;Residues: 1-62, 'S', 64-233 <WAN>

A;Cross-references: UNIPARC:UPI000002FB8A; GB:M10988; NID:g339737; PIDN:AAA61198.1; PID

R;Fukuda, S.; Ando, S.; Sanou, O.; Tanisai, M.; Fujii, M.; Masaki, N.; Nakamura, K.I.; A

Lymphokine Res. 7, 175-185, 1988

A;Title: Simultaneous production of natural human tumor necrosis factor-alpha, -beta an

A;Reference number: A61478; MUID:88301617; PMID:2841543

A;Accession: B61478

A;Molecule type: protein

A;Residues: 83-102;109-119;121-128.'X',130-131;142-144,'X',146,'XXX',150-152;159-174;18

A;Cross-references: UNIPARC:UPI00001735C7; UNIPARC:UPI00001735C8; UNIPARC:UPI00001735C5

R;Marmenout, A.; Franssen, L.; Tavernier, J.; Van Der Heyden, J.; Tizard, R.; Kawashima,

Eur. J. Biochem. 152, 515-522, 1985

A:Title: Molecular cloning and expression of human tumor necrosis factor and comparison  
A:Reference number: I53311; MUID:86030296; PMID:3932069  
A:Accession: I53311  
A>Status: translated from GB/EMBL/DBJ  
A:Molecule type: DNA  
A:Residues: 1-233 <MAR>  
A:Cross-references: UNIPARC:UPI000000D745; GB:M26331; NID:G339763; PIDN:AAA36758.1; PID:  
R:Takakura-Yamamoto, R.; Yamamoto, S.; Fukuda, S.; Kurimoto, M.  
Eur. J. Biochem. 235, 431-437, 1996  
A:Title: O-Glycosylated species of natural human tumor-necrosis factor-alpha.  
A:Reference number: S62610; MUID:96202967; PMID:8631363  
A:Accession: S62610  
A:Molecule type: protein  
A:Residues: 77-99 <YAK>  
A:Cross-references: UNIPARC:UPI00001735CD  
R:D'Alfonso, S.; Richiardi, P. M.  
Immunogenetics 39, 150-154, 1994  
A:Title: A polymorphic variation in a putative regulation box of the TNFA promoter region  
A:Reference number: I54522; MUID:94102809; PMID:7903959  
A:Accession: I54522  
A>Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: DNA  
A:Residues: 1-8 <DAL>  
A:Cross-references: UNIPARC:UPI00001735CE; GB:S68530; NID:G544751  
R:Stevenson, F.T.; Bursten, S.L.; Locksley, R.M.; Lovett, D.H.  
J. Exp. Med. 176, 1053-1062, 1992  
A:Title: Myristyl acylation of the tumor necrosis factor alpha precursor on specific lys  
A:Reference number: A59163; MUID:93018820; PMID:1402651  
A:Content: annotation; identification of myristylated lysines  
R:Aggarwal, B.B.; Kohr, W.J.; Haas, P.E.; Moffat, B.; Spencer, S.A.; Henzel, W.J.; Bring  
J. Biol. Chem. 260, 2345-2354, 1985  
A:Title: Human tumor necrosis factor. Production, purification, and characterization.  
A:Reference number: A92511; MUID:85130974; PMID:3871770  
A:Content: annotation; disulfide bond  
C:Comment: Secreted from mitogen-activated macrophages within 4-24 hours after induction  
out detriment to normal cells. It can also act synergistically with interferon gamma to  
C:Comment: TNF-alpha and -beta (lymphotoxin) are the products of different genes closely  
ut are produced by different cell types and have different induction kinetics.  
C:Genetics:  
A:Gene: GDB:TNF; TNFA  
A:Cross-references: GDB:120441; OMIM:191160  
A:Map position: 6P21.3-6P21.3  
A:Introns: 62/3; 78/1; 94/1  
C:Complex: homotrimer  
C:Superfamily: tumor necrosis factor  
F:1-76/Domain: propeptide #status predicted <PRO>  
F:1-76/Domain: propeptide #status predicted <PRO>  
F:1-76/Domain: propeptide #status predicted <PRO>  
F:19,20/Binding site: myristate (Lys) (covalent) #status experimental  
F:81/Binding site: carbohydrate (Ser) (covalent) (partial) #status experimental  
F:145-177/Disulfide bonds: #status experimental

Query Match 96.4%; Score 777; DB 1; Length 233;  
Best Local Similarity 96.2%; Pred. No. 1.1e-71; Mismatches 5; Indels 0; Gaps 0;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDAPVAHVANPOAEGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLYS 60  
DB 77 VRSSRTPSDKPVAVHVANPOAEGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLYS 136  
QY 61 QVLFSGQCGPSTHVLTHTTISRIASVYQTRVNLLSAISPCCORETPEGAALPWTEPIYL 120  
DB 137 QVLFSGQCGPSTHVLTHTTISRIASVYQTRVNLLSAISPCCORETPEGAALPWTEPIYL 196  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
DB 197 GGVFOLEKGRLSAEINRPDYLDFAESGVYFGIIAL 233  
RESULT 2  
S22052  
tumor necrosis factor alpha precursor - baboon

C:Species: Papio sp. (baboon)  
C:Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C:Accession: S22052  
R:Sanjanwala, M.; Edwards, A.  
submitted to the EMBL Data Library, September 1991  
A:Description: Baboon Tumor Necrosis Factor Derived from Sequences of Genomic DNA.  
A:Reference number: S22052  
A:Accession: S22052  
A>Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-233 <SAN>  
A:Cross-references: UNIPROT:P33620; UNIPARC:UPI00001370C4; EMBL:X62141; NID:G38159; PID:  
C:Genetics:  
A:Introns: 62/3; 78/1; 94/1  
C:Superfamily: tumor necrosis factor  
C:Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein  
F:19,20/Binding site: myristate (Lys) (covalent) #status predicted  
F:81/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:145-177/Disulfide bonds: #status predicted

Query Match 95.5%; Score 770; DB 1; Length 233;  
Best Local Similarity 95.5%; Pred. No. 5.6e-71; Mismatches 6; Indels 0; Gaps 0;  
Matches 150; Conservative 1; Mismatches 6; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDAPVAHVANPOAEGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLYS 60  
DB 77 VRSSRTPSDKPVAVHVANPOAEGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLYS 136  
QY 61 QVLFSGQCGPSTHVLTHTTISRIASVYQTRVNLLSAISPCCORETPEGAALPWTEPIYL 120  
DB 137 QVLFSGQCGPSTHVLTHTTISRIASVYQTRVNLLSAISPCCORETPEGAALPWTEPIYL 196  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGVYFGIIAL 157  
DB 197 GGVFOLEKGRLSAEINRPDYLDFAESGVYFGIIAL 233  
RESULT 3  
S11688  
tumor necrosis factor alpha precursor - cat  
C:Species: Felis silvestris catus (domestic cat)  
C:Date: 21-Nov-1993 #sequence\_revision 10-Nov-1995 #text\_change 09-Jul-2004  
C:Accession: S11688  
R:McGraw, R.A.; Coffee, B.W.; Otto, C.M.; Drews, R.T.; Rawlings, C.A.  
Nucleic Acids Res. 18, 5563, 1990  
A:Title: Gene sequence of feline tumor necrosis factor alpha.  
A:Reference number: S11688; MUID:91016860; PMID:2216740  
A:Accession: S11688  
A>Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-233 <MCG>  
A:Cross-references: UNIPROT:P19101; UNIPARC:UPI00001370BE; EMBL:X54000; NID:G1084; PID:  
C:Genetics:  
A:Introns: 62/3; 78/1; 94/1  
C:Superfamily: tumor necrosis factor  
C:Keywords: glycoprotein; lipoprotein; myristylation; transmembrane protein  
F:19,20/Binding site: myristate (Lys) (covalent) #status predicted  
F:81/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F:145-177/Disulfide bonds: #status predicted

Query Match 88.1%; Score 710; DB 2; Length 233;  
Best Local Similarity 88.5%; Pred. No. 7.4e-65; Mismatches 6; Indels 12; Gaps 0;  
Matches 139; Conservative 6; Mismatches 12; Indels 0; Gaps 0;  
QY 1 VRSSRTPSDAPVAHVANPOAEGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLYS 60  
DB 77 VRSSRTPSDKPVAVHVANPOAEGQLQWLNRRANALLANGVELRDNLQVVPSEGLYLYS 136  
QY 61 QVLFSGQCGPSTHVLTHTTISRIASVYQTRVNLLSAISPCCORETPEGAALPWTEPIYL 120  
DB 137 QVLFSGQCGPSTHVLTHTTISRIASVYQTRVNLLSAISPCCORETPEGAALPWTEPIYL 196  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGVYFGIIAL 157





1

Best Local Similarity 75.2%; Pred. No. 2.5e-56;  
Matches 118; Conservative 21; Mismatches 17; Indels 1; Gaps 1;

QY 1 VRSSRTPSDAPVAHVVANPAEQGLQWLNRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 80 LRSSQSSNKKPAHVHVANQVDEQLQSWLSRGANALLANGMDLKDNLQVTPADGLYLIYS 139  
QY 61 QVLFSGGCGCPSTHVLTTHTTSRIASVSTQTRVNLLSAISPCQRETPGEGALPWYEPYIL 120  
Db 140 QVLFKGCGC-SSVYLLTHTVSRFAVSIEDKVNLLSAIKSPKRETPGSELKPWYEPYIL 198  
QY 121 GGVFQLETGDRLSAEINRPDYLPFAESGVYFGIIAL 157  
Db 199 GGVFQLEKGDRLSAEVLNPKYLPFAESGVYFGVIAL 235

RESULT 12

S06192  
tumor necrosis factor alpha precursor - goat (fragment)  
N;Alternate names: cachectin; TNF alpha  
C;Species: Capra aegagrus hircus (domestic goat)  
C;Date: 28-Feb-1990 #sequence\_revision 28-Feb-1990 #text\_change 09-Jul-2004  
C;Accession: S06192; S41867  
R;Goldstein, I.M.; Henner, D.; Talhouk, A.  
submitted to the EMBL Data Library, March 1989  
A;Reference number: S06192  
A;Accession: S06192  
A;Molecule type: mRNA  
A;Residues: 1-193 <GOL>  
A;Cross-references: UNIPROT:P13296; UNIPARC:UPI000016C3FD; EMBL:X14828; NID:g992; PIDN:C  
R;Rimstad, E.  
submitted to the EMBL Data Library, January 1994  
A;Reference number: S41867  
A;Accession: S41867  
A;Status: preliminary  
A;Molecule type: mRNA  
A;Residues: 35-38; 'S', 40-78; 'A', 80-88; 'N', 90-114; 'Q', 116-123; 'D', 125-144; 'G', 145-173; 'L'  
A;Cross-references: UNIPARC:UPI000016C3PB; EMBL:X77317; NID:g452607; PIDN:CAA54523.1; PIDN:C  
C;Superfamily: tumor necrosis factor  
C;Keywords: cytokine; cytotoxin; glycoprotein; lymphokine; macrophage; membrane protein  
F;42/Binding site: carbohydrate (Ser) (covalent) #status predicted  
F;106-138/Disulfide bonds: #status predicted

Query Match 77.2%; Score 622.5; DB 2; Length 193;  
Best Local Similarity 78.3%; Pred. No. 5e-56;  
Matches 123; Conservative 14; Mismatches 19; Indels 1; Gaps 1;

QY 1 VRSSRTPSDAPVAHVVANPAEQGLQWLNRANALLANGVELRDNLQVVPSEGLYLIYS 60  
Db 38 LRSSQSSNKKPAHVHVANISAPQLRWGDSYANALKANGVELKDNLQVVPDGLYLIYS 97  
QY 61 QVLFSGGCGCPSTHVLTTHTTSRIASVSTQTRVNLLSAISPCQRETPGEGALPWYEPYIL 120  
Db 98 QVLFRGHCPSPTFLFTHTTSRIASVSTQTRVNLLSAIKSPCHRETPG-AEAKPWYEPYIQ 156  
QY 121 GGVFQLETGDRLSAEINRPDYLPFAESGVYFGIIAL 157  
Db 157 GGVFQLEKGDRLSAEINQPRYLPFAESGVYFGIIAL 193

RESULT 13

JU0029  
tumor necrosis factor alpha precursor - rat  
N;Alternate names: cachectin; TNF alpha  
C;Species: Rattus norvegicus (Norway rat)  
C;Date: 07-Jun-1990 #sequence\_revision 07-Jun-1990 #text\_change 09-Jul-2004  
C;Accession: JU0029; JN0868; S21674  
R;Shirai, T.; Shimizu, N.; Horiguchi, S.; Ito, H.  
Agric. Biol. Chem. 53, 1733-1736, 1989  
A;Title: Cloning and expression in Escherichia coli of the gene for rat tumor necrosis factor  
A;Reference number: JU0029  
A;Accession: JU0029  
A;Molecule type: DNA



**THIS PAGE BLANK (USPTO)**



GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:21:53 ; Search time 53.5 Seconds  
(without alignments)  
2070.429 Million cell updates/sec

Title: US-10-668-178-16

Perfect score: 806

Sequence: 1 VRSSRTPSDAPVAHVANP.....RPDYLDFAERSGVYFGIAL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Uniprot 05.80.\*

1: uniprot\_sprot.\*

2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	777	96.4	233	1	TNFA_HUMAN
2	777	96.4	233	2	Q55TB3_HUMAN
3	770	95.5	233	1	TNFA_PAPSP
4	768	95.3	232	1	TNFA_PANTR
5	759	94.2	233	1	TNFA_MACMU
6	756	93.8	233	1	TNFA_MACFA
7	755	93.7	233	1	TNFA_PAPHU
8	752	93.3	233	1	TNFA_PAPAN
9	742	92.1	149	2	Q97543_AOTWA
10	736	91.3	233	1	TNFA_CANFA
11	729	90.4	233	1	TNFA_FELCA
12	704	87.3	233	1	TNFA_SALSC
13	695	86.2	234	1	TNFA_HORSE
14	693	86.0	149	2	Q97538_AOTVO
15	693	86.0	149	2	Q97TGH_AOTNI
16	689	85.5	217	2	Q9BEG0_CYCDI
17	685	85.0	217	2	Q9BEG1_BRATR
18	677	84.0	233	1	TNFA_DELLE
19	675.5	83.8	232	1	TNFA_PIG
20	659	81.8	233	1	TNFA_TURTR
21	650	80.6	217	2	Q9B8F4_CABUN
22	640	79.4	138	2	Q9TTG7_AOTLE
23	639	79.3	234	1	TNFA_CAPHI
24	637.5	79.1	235	1	TNFA_RABIT
25	636	78.9	234	2	Q53ZM5_CAPHI
26	635.5	78.8	234	1	TNFA_CAVPO
27	632.5	78.5	235	1	TNFA_MOUSE
28	631	78.3	234	2	Q539C2_TUPTA
29	630	78.2	216	2	Q9BEC4_TALEU
30	630	78.2	229	1	TNFA_CEREL
31	629	78.0	233	1	TNFA_BOVIN

32	629	78.0	233	1	TNFA_BUBBU	P59693 bubalus bub
33	629	78.0	234	1	TNFA_BOSIN	P59684 bos indicus
34	627	77.8	234	1	TNFA_SHEEP	P23383 ovis aries
35	626.5	77.7	235	1	TNFA_PERLE	P36939 peromyscus
36	626.5	77.0	232	2	Q80XA4_PERMA	Q80XA4 peromyscus
37	620.5	77.0	235	2	Q5W9H9_MERUN	Q5W9H9 meriones un
38	617.5	76.6	235	1	TNFA_RAT	P16599 rattus norv
39	617.5	76.6	235	2	Q6EE11_RAT	Q6EE11 rattus norv
40	615	76.3	233	1	TNFA_CAMBA	Q75N23 camelus bac
41	615	76.3	233	1	TNFA_LAMGL	P59694 lama glama
42	609.5	75.6	156	2	Q91ZL4_SIGHI	Q91ZL4 sigmodon hi
43	605.5	75.1	216	2	Q9BEC9_OCHPR	Q9BEC9 ochotona pr
44	602.5	74.8	233	1	TNFA_MARMO	Q35734 marmota mon
45	602.5	74.8	233	2	Q6X658_MARMO	Q6X658 marmota mon

## ALIGNMENTS

### RESULT 1

ID TNFA\_HUMAN STANDARD; PRT; 233 AA.  
AC P01375; Q43647; Q9P1Q2; Q9UIV3;  
DT 21-JUL-1986 (Rel. 01, Last sequence update)  
DT 21-JUL-1986 (Rel. 01, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
GN Name:TNF; Synonyms:TNFA, TNFSF2;  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;  
OC Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP NUCLEOTIDE SEQUENCE.  
RX MEDLINE=87217060; PubMed=3555974;  
RA Nedospasov S.A., Shakhov A.N., Turetskaya R.L., Mett V.A.,  
RA Azizov M.M., Georgiev G.P., Korobko V.G., Dobrynin V.N.,  
RA Filippov S.A., Bystrov N.S., Boldyreva E.F., Chuvpilo S.A.,  
RA Chumakov A.M., Shingarova L.N., Ovchinnikov Y.A.;  
RA "Tandem arrangement of genes coding for tumor necrosis factor (TNF-  
alpha) and lymphotoxin (TNF-beta) in the human genome.";  
Cold Spring Harb. Symp. Quant. Biol. 51:611-624(1986).  
[2]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=85086244; PubMed=6392892;  
RX Pennica D., Nedwin G.E., Hayflick J.S., Seeburg P.H., Derynck R.,  
RA Palladino M.A., Kohr W.J., Aggarwal B.B., Goeddel D.V.;  
RA "Human tumour necrosis factor: precursor structure, expression and  
homology to lymphotoxin.";  
Nature 312:724-729(1984).  
[3]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=85137898; PubMed=3883195;  
RX Shirai T., Yamaguchi H., Ito H., Todd C.W., Wallace R.B.;  
RA "Cloning and expression in Escherichia coli of the gene for human  
tumour necrosis factor.";  
Nature 313:803-806(1985).  
[4]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=86016093; PubMed=2995927;  
RX Nedwin G.E., Naylor S.L., Sakaguchi A.Y., Smith D.H.,  
RA Jarratt-Nedwin J., Pennica D., Goeddel D.V., Gray P.W.;  
RA "Human lymphotoxin and tumor necrosis factor genes: structure,  
homology and chromosomal localization.";  
Nucleic Acids Res. 13:6361-6373(1985).  
[5]  
RP NUCLEOTIDE SEQUENCE.  
MEDLINE=85142190; PubMed=3856324;  
RX Wang A.M., Creasey A.A., Ladner M.B., Lin L.S., Strickler J.,  
RA van Arsdel J.N., Yamamoto R., Mark D.P.;

RT "Molecular cloning of the complementary DNA for human tumor necrosis factor." Science 228:149-154(1985).

RA NUCLEOTIDE SEQUENCE.

RP MEDLINE=86030296; PubMed=3932069;

RA Marnenout A., Franssen L., Tavernier J., van der Heyden J., Tizard R., Kawashima E., Shaw A., Johnson M.J., Semon D., Mueller R., Ruysschaert M.R., van Vliet A., Fiers W.;

RT "Molecular cloning and expression of human tumor necrosis factor and comparison with mouse tumor necrosis factor." Eur. J. Biochem. 152:515-522(1985).

RA NUCLEOTIDE SEQUENCE.

RP MEDLINE=93272029; PubMed=8499947;

RA Iris F.J.M., Bougueleret L., Prieur S., Caterina D., Primas G., Perrot V., Jurka J., Rodriguez-Tome P., Claverie J.-M., Dausset J., Cohen D.;

RT "Dense Alu clustering and a potential new member of the NF kappa B family within a 90 kilobase HLA class III segment." Nat. Genet. 3:137-145(1993).

RA NUCLEOTIDE SEQUENCE.

RP MEDLINE=99218514; PubMed=10202016;

RA Neville M.J., Campbell R.D.;

RT "A new member of the Ig superfamily and a V-ATPase G subunit are among the predicted products of novel genes close to the TNF locus in the human MHC." J. Immunol. 162:4745-4754(1999).

RA NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

RP PubMed=14656967; DOI=10.1101/gr.1736803;

RA Xie T., Rowen L., Aguado B., Ahearn M.E., Madan A., Qin S., Campbell R.D., Hood L.;

RT "Analysis of the gene-dense major histocompatibility complex class III region and its comparison to mouse." Genome Res. 13:2621-2636(2003).

RA NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

RP Shiina S., Tamiya G., Oka A., Inoko H.;

RT "Homo sapiens 2,229,817bp genomic DNA of 6p21.3 HLA class I region." Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.

RA NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].

RP Shiina T., Ota M., Katsuyama Y., Hashimoto N., Inoko H.;

RT "Genome diversity in HLA: a new strategy for detection of genetic polymorphisms in expressed genes within the HLA class III and class I regions." Submitted (JUL-2002) to the EMBL/GenBank/DBJ databases.

RA NUCLEOTIDE SEQUENCE [GENOMIC DNA].

RP Rieder M.J., Carrington D.P., Chung M.-W., Lee K.L., Poel C.L., Yi Q., Nickerson D.A.;

RT "SeattleSNPs, NHLBI HL6682 program for genomic applications, UW-PHCRC, Seattle, WA (URL: <http://pga.gs.washington.edu>)."; Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.

RA NUCLEOTIDE SEQUENCE [GENOMIC DNA], AND VARIANT LEU-84.

RP Rieder M.J., Livingston R.J., Daniels M.R., Montoya M.A., Chung M.-W., Miyamoto K.E., Nguyen C.P., Nguyen D.A., Poel C.L., Robertson P.D., Schackwitz W.S., Sherwood J.K., Wittrak L.A., Nickerson D.A.;

RT "NIHES-SNPs, environmental genome project, NIHES ES15478, Department of Genome Sciences, Seattle, WA (URL: <http://egp.gs.washington.edu>)."; Submitted (JAN-2003) to the EMBL/GenBank/DBJ databases.

RA TISSUE=Blood;

RP MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullany S.J., Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalilus D.E., Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;

RT "Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences." Proc. Natl. Acad. Sci. U.S.A. 99:16999-16903(2002).

RA NUCLEOTIDE SEQUENCE OF 77-233.

RP Jang J.S., Kim B.E.;

RL Submitted (JAN-1998) to the EMBL/GenBank/DBJ databases.

RA NUCLEOTIDE SEQUENCE OF 84-214.

RP TISSUE=Prostatic carcinoma;

RA Shao C., Yan W., Zhu F., Yue W., Chai Y., Zhao Z., Wang C.;

RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.

RA PHOSPHORYLATION (MEMBRANE FORM).

RP MEDLINE=96170872; PubMed=8597870;

RA Pocsik E., Duda E., Wallach D.;

RT "Phosphorylation of the 26 kDa TNF precursor in monocytic cells and in transfected HeLa cells." J. Inflamm. 45:152-160(1995).

RA PHOSPHORYLATION BY CK1, AND DEPHOSPHORYLATION.

RP MEDLINE=99221647; PubMed=10205166; DOI=10.1093/emboj/18.8.2119;

RA Watts A.D., Hunt N.H., Wanigasekara Y., Bloomfield G., Wallach D., Roufogalis B.D., Chaudhri G.;

RT "A casein kinase I motif present in the cytoplasmic domain of members of the tumour necrosis factor ligand family is implicated in 'reverse signalling'." EMBO J. 18:2119-2126(1999).

RA MUTAGENESIS.

RP MEDLINE=91184128; PubMed=2009860;

RA Ostade X.V., Tavernier J., Prange T., Fiers W.;

RT "Localization of the active site of human tumour necrosis factor (hTNF) by mutational analysis." EMBO J. 10:827-836(1991).

RA MYRISTOYLATION.

RP MEDLINE=93018820; PubMed=1402651; DOI=10.1084/jem.176.4.1053;

RA Stevenson F.T., Bursten S.L., Locksley R.M., Lovett D.H.;

RT "Myristyl acylation of the tumor necrosis factor alpha precursor on specific lysine residues." J. Exp. Med. 176:1053-1062(1992).

RA CLEAVAGE BY ADAM17.

RP MEDLINE=97186575; PubMed=9034191;

RA Moss M.L., Jin S.-L.C., Milla M.E., Burkhardt W., Carter H.L., Chen W.-J., Clay W.C., Didsbury J.R., Haessler D., Hoffman C.R., Kost T.A., Lambert M.H., Leesnitzer M.A., McCauley P., McGeehan G., Mitchell J., Moyer M., Pabel G., Rocque W., Overton L.K., Schoenen P., Seaton T., Su J.-L., Warner J., Willard D., Becherer J.D.;

RT "Cloning of a disintegrin metalloproteinase that processes precursor tumour-necrosis factor-alpha." Nature 385:733-736(1997).

RA X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).

RP MEDLINE=89159409; PubMed=2922050; DOI=10.1038/338225a0;

RA Jones E.Y., Stuart D.I., Walker N.P.;

RT "Structure of tumour necrosis factor." Nature 338:225-228(1989).

RA X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).



```

SQ SEQUENCE 233 AA; 25557 MW; 455360B48DC74173 CRC64;
Query Match 95.5%; Score 770; DB 1; Length 233;
Best Local Similarity 95.5%; Pred. No. 2.7e-70;
Matches 150; Conservative 1; Mismatches 6; Indels 0; Gaps 0;

QY 1 VRSSRTSPDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
Db 77 VRSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYS 136

QY 61 QVLFSGQGCPSHTVLLTHTSIRIAVSQYTRVNLISAIASPCQRETPGAEALPWYEPYVL 120
Db 137 QVLFSGQGCPSHTVLLTHTSIRIAVSQYTRVNLISAIASPCQRETPGAEALPWYEPYVL 196

QY 121 GGVFQLETDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 197 GGVFQLEKGRDLSAEINLPDYLDFAESGQVYFGIALL 233

RESULT 4
TNFA_PANTR
ID TNFA_PANTR STANDARD; PRT; 232 AA.
AC Q8HZD9;
DT 10-OCT-2003 (Rel. 42, Created)
DT 10-OCT-2003 (Rel. 42, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
GN Name=TNF; Synonyms=TNFA, TNFSF2;
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Pan.
OX NCBI_TaxID=9598;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22381002; PubMed=12493009;
RX DOI=10.1034/j.1600-085X.2002.19008.x;
RA Kuleki J.K., Shiina T., Anzai T., Kohara S., Inoko H.;
RA Yamagata T., Kuleki J.K., Naruse T.K., Fujimori Y., Fukuzumi Y.,
RA Yamazaki M., Tashiro H., Imamoto C., Umehara Y., Imanishi T.,
RA Meyer A., Ikeo K., Gojobori T., Bahram S., Inoko H.;
RT "Comparative sequencing of human and chimpanzee MHC class I regions
RT unveils insertions/deletions as the major path to genomic
RT divergence.";
RL Immunol. Rev. 190:95-122(2002).
RN [2]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
RX MEDLINE=22709134; PubMed=12799463; DOI=10.1073/pnas.1230533100;
RA Anzai T., Shiina T., Kimura N., Yanagiya K., Kohara S., Shigenari A.,
RA Yamagata T., Kuleki J.K., Naruse T.K., Fujimori Y., Fukuzumi Y.,
RA Yamazaki M., Tashiro H., Imamoto C., Umehara Y., Imanishi T.,
RA Meyer A., Ikeo K., Gojobori T., Bahram S., Inoko H.;
RT "Comparative sequencing of human and chimpanzee MHC class I regions
RT unveils insertions/deletions as the major path to genomic
RT divergence.";
RL Proc. Natl. Acad. Sci. U.S.A. 100:7708-7713(2003).
RN [3]
RP NUCLEOTIDE SEQUENCE OF 33-186.
RA O'Huigin C., Tichy H., Klein J.;
RT "Molecular evolution in higher primates; gene specific and organism
RT specific characteristics.";
RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia. Under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation (By similarity).
CC -!- SUBUNIT: Homotrimer (By similarity).
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -!- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -!- PTM: The membrane form, but not the soluble form, is
```

```

CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC
CC EMBL; AB054536; BAB83882.1; -; Genomic DNA.
CC EMBL; BA000041; BAC78157.1; -; Genomic DNA.
CC EMBL; AY091964; AAM76582.1; -; Genomic DNA.
CC HSSP; P01375; 4TSV.
CC SMR; Q8HZD9; 81-232.
CC
CC InterPro; IPR006053; TNF_alpha.
CC InterPro; IPR002959; TNF_alpha.
CC InterPro; IPR006052; TNF_family.
CC InterPro; IPR003636; TNF_subf.
CC PANTHER; PTHR11471:SF4; TNF_alpha; 1.
CC Pfam; PF00229; TNF; 1.
CC PRINTS; PR01234; TNECROSISFCT.
CC PRINTS; PR01235; TNFALPHA.
CC ProDom; PD02012; TNF_subf; 1.
CC PROSITE; PS00251; TNF_1; 1.
CC PROSITE; PS00049; TNF_2; 1.
CC Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 232
FT Tumor necrosis factor, membrane form (By
FT similarity).
FT CHAIN 77 232
FT Tumor necrosis factor, soluble form (By
FT similarity).
FT TOPO_DOM 1 34
FT TRANSMEM 35 57
FT Signal-anchor for type II membrane
FT protein (By similarity).
FT TOPO_DOM 58 232
FT SITS 76 77
FT MOD_RES 2 2
FT DISULFID 144 176
FT CONFLICT 77 77
FT G -> VR (in Ref. 3).
SQ SEQUENCE 232 AA; 25446 MW; E4D71B19C6AE0D03 CRC64;
Query Match 95.3%; Score 768; DB 1; Length 232;
Best Local Similarity 96.1%; Pred. No. 4.4e-70;
Matches 149; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 3 SSSRTSPDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYSQV 62
Db 78 SSSRTSPDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLIYSQV 137

QY 63 LFSGQGCPSHTVLLTHTSIRIAVSQYTRVNLISAIASPCQRETPGAEALPWYEPYVL 122
Db 138 LFSGQGCPSHTVLLTHTSIRIAVSQYTRVNLISAIASPCQRETPGAEALPWYEPYVL 197

QY 123 VFQLETDRLSAEINRPDYLDFAESGQVYFGIALL 157
Db 198 VFQLEKGRDLSAEINRPDYLDFAESGQVYFGIALL 232

RESULT 5
TNFA_MACMU
ID TNFA_MACMU STANDARD; PRT; 233 AA.
AC P48094; Q5TM21; Q8HZD6;
DT 01-FEB-1996 (Rel. 33, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].
DE Name=TNF; Synonyms=TNFA, TNFSF2;
GN Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
```

OC Cercopithecidae; Cercopithecinae; Macaca.  
OX NCBI\_TaxID=9544;  
RN [1]  
RP NUCLEOTIDE SEQUENCE [MRNA].  
RX MEDLINE=96003435; PubMed=7561102;  
RA Villinger F.J., Brar S.S., Wayne A.E., Chikkala N., Ansari A.A.;  
RT "Comparative sequence analysis of cytokine genes from human and  
RT nonhuman primates."  
RL J. Immunol. 155:3946-3954(1995).  
RN [2]  
RP NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].  
RX PubMed=15269276; DOI=10.1093/molbev/meh216;  
RA Kulski J.K., Anzai T., Shihara T., Inoko H.;  
RT "Rhesus macaque class I duplicon structures, organization, and  
RT evolution within the alpha block of the major histocompatibility  
RT complex."  
RL Mol. Biol. Evol. 21:2079-2091(2004).  
RN [3]  
RP NUCLEOTIDE SEQUENCE [GENOMIC DNA] OF 33-187.  
RA O'Huigin C., Tichy H., Klein J.;  
RT "Molecular evolution in higher primates; gene specific and organism  
RT specific characteristics."  
RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can  
CC induce cell death of certain tumor cell lines. It is potent  
CC pyrogen causing fever by direct action or by stimulation of  
CC interleukin 1 secretion and is implicated in the induction of  
CC cachexia, under certain conditions it can stimulate cell  
CC proliferation and induce cell differentiation.  
CC -!- SUBUNIT: Homotrimer (By similarity).  
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
CC extracellular soluble form (By similarity).  
CC -!- PTM: The soluble form derives from the membrane form by  
CC proteolytic processing (By similarity).  
CC -!- PTM: The membrane form, but not the soluble form, is  
CC phosphorylated on serine residues. Dephosphorylation of the  
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
CC similarity).  
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.  
CC  
CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
CC  
CC EMBL; U19850; AAA86712.1; -; mRNA.  
CC EMBL; AB128049; BAD69724.1; -; Genomic DNA.  
CC EMBL; AY091967; AAM76585.1; -; Genomic DNA.  
CC HSSP; P01375; 4TSV.  
CC SMR; P48094; 82-233.  
CC InterPro; IPR006053; TNF\_alpha.  
CC InterPro; IPR002959; TNF\_alpha.  
CC InterPro; IPR006052; TNF\_family.  
CC InterPro; IPR001636; TNF\_subf.  
CC PANTHER; PTHR11471.SF4; TNF\_alpha; 1.  
CC Pfam; PF00229; TNF; 1.  
CC PRINTS; PR01234; TNFCROSISFCT.  
CC PRINTS; PR01235; TNFALPHA.  
CC ProDom; PD002012; TNF\_subf; 1.  
CC SMART; SM00207; TNF; 1.  
CC PROSITE; PS00251; TNF; 1; 1.  
CC PROSITE; PS0049; TNF; 2; 1.  
CC Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
KW CHAIN 1 233 Tumor necrosis factor, membrane form.  
FT CHAIN 77 233 Tumor necrosis factor, soluble form.  
FT CHAIN 1 35 Cytoplasmic (Potential).  
FT TRANSMEM 36 56 Signal-anchor for type II membrane  
FT protein (Potential).  
FT TOPO\_DOM 57 233 Extracellular (Potential).  
FT SITE\_ 76 77 Cleavage (by ADAM17) (By similarity).  
FT MOD\_RES 2 2 Phosphoserine (by CK1) (By similarity).  
FT

FT DISULFID 145 177 By similarity.  
SQ SEQUENCE 233 AA; 25630 MW; 9P6F85050595FD59 CRC64;  
Query Match 94.2%; Score 759; DB 1; Length 233;  
Best Local Similarity 94.3%; Pred. No. 3.7e-69;  
Matches 148; Conservative 1; Mismatches 8; Indels 0; Gaps 0;  
QY 1 VRSSRTPTSDAFVAHVANPQAEGLQWLNRRANALLANGVELTDNQLVVPSEGLYLIYS 60  
|||||  
DB 77 VRSSRTPTSDKFPVAHVANPQAEGLQWLNRRANALLANGVELTDNQLVVPSEGLYLIYS 136  
QY 61 QVLFGGQCPSTHVLTLTHTISRIASVYQTRVNLSSAISPCQRETPGEAALPWYPIYL 120  
|||||  
DB 137 QVLFGGQCPSTHVLTLTHTISRIASVYQTRVNLSSAISPCQRETPGEAALPWYPIYL 196  
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGVYFGIALL 157  
|||||  
DB 197 GGVFQLEKGRLSAEINRPDYLDFAESGVYFGIALL 233  
RESULT 6  
TNFA\_MACFA  
ID TNFA\_MACFA STANDARD; PRT; 233 AA.  
AC F79337;  
DT 15-JUL-1998 (Rel. 36, Created)  
DT 15-JUL-1998 (Rel. 36, Last sequence update)  
DT 13-SEP-2005 (Rel. 48, Last annotation update)  
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
GN Name=TNF; Synonyms=TNFA, TNFSF2;  
OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;  
OC Cercopithecidae; Cercopithecinae; Macaca.  
OX NCBI\_TaxID=9544;  
RN [1]  
RP NUCLEOTIDE SEQUENCE [MRNA].  
RC TISSUE=Lymphocyte;  
RA Tatum M.;  
RT "Molecular cloning and expression of cynomolgus monkey TNF-alpha."  
RL Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can  
CC induce cell death of certain tumor cell lines. It is potent  
CC pyrogen causing fever by direct action or by stimulation of  
CC interleukin 1 secretion and is implicated in the induction of  
CC cachexia, under certain conditions it can stimulate cell  
CC proliferation and induce cell differentiation.  
CC -!- SUBUNIT: Homotrimer (By similarity).  
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
CC extracellular soluble form (By similarity).  
CC -!- PTM: The soluble form derives from the membrane form by  
CC proteolytic processing (By similarity).  
CC -!- PTM: The membrane form, but not the soluble form, is  
CC phosphorylated on serine residues. Dephosphorylation of the  
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
CC similarity).  
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.  
CC  
CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
CC the European Bioinformatics Institute. There are no restrictions on its  
CC use as long as its content is in no way modified and this statement is not  
CC removed.  
CC  
CC EMBL; AB000513; BAA19131.1; -; mRNA.  
CC HSSP; P01375; 4TSV.  
CC SMR; P79337; 82-233.  
CC InterPro; IPR006053; TNF\_alpha.  
CC InterPro; IPR002959; TNF\_alpha.  
CC InterPro; IPR006052; TNF\_family.  
CC InterPro; IPR001636; TNF\_subf.  
CC PANTHER; PTHR11471.SF4; TNF\_alpha; 1.  
CC Pfam; PF00229; TNF; 1.  
CC PRINTS; PR01234; TNFCROSISFCT.  
CC PRINTS; PR01235; TNFALPHA.  
CC ProDom; PD002012; TNF\_subf; 1.  
CC SMART; SM00207; TNF; 1.  
CC PROSITE; PS00251; TNF; 1; 1.  
CC PROSITE; PS0049; TNF; 2; 1.  
CC Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
KW CHAIN 1 233 Tumor necrosis factor, membrane form.  
FT CHAIN 77 233 Tumor necrosis factor, soluble form.  
FT CHAIN 1 35 Cytoplasmic (Potential).  
FT TRANSMEM 36 56 Signal-anchor for type II membrane  
FT protein (Potential).  
FT TOPO\_DOM 57 233 Extracellular (Potential).  
FT SITE\_ 76 77 Cleavage (by ADAM17) (By similarity).  
FT MOD\_RES 2 2 Phosphoserine (by CK1) (By similarity).  
FT

DR PANTHER; PTHR11471:SF4; TNE\_alpha; 1.  
 DR Pfam; PF00229; TNE; 1.  
 DR PRINTS; PRO1234; TNECROSISFCT.  
 DR PRINTS; PRO1235; TNFALPHA.  
 DR ProDom; PD002012; TNF\_subf; 1.  
 DR SMART; SM00207; TNF; 1.  
 DR PROSITE; PS00251; TNE\_1; 1.  
 DR PROSITE; PS0049; TNE\_2; 1.  
 DR Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 KW CHAIN 1 233  
 FT CHAIN 77 233  
 FT TOPO\_DOM 1 35  
 FT TRANSMEM 36 56  
 FT TOPO\_DOM 57 233  
 FT SITE 76 233  
 FT MOD\_RES 2 2  
 FT DISULFID 145 177  
 FT SEQUENCE 233 AA; 25558 MW; 6ABF2C3AB132C217 CRC64;  
 Query Match 93.8%; Score 756; DB 1; Length 233;  
 Best Local Similarity 93.6%; Pred. No. 7.4e-69;  
 Matches 147; Conservative 2; Mismatches 8; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
 DB 77 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 136  
 QY 61 QVLFSGQGCPSPTHVLLTHTISRIAVSYQTRVNLSSAISPQORETPEGAALPWYEPIYL 120  
 DB 137 QVLFSGQGCPSPTHVLLTHTISRIAVSYQTRVNLSSAISPQORETPEGAALPWYEPIYL 196  
 QY 121 GGVFQLEKGRLSAEINLPDYLDFAESGVYFGIIAL 157  
 DB 197 GGVFQLEKGRLSAEINLPDYLDFAESGVYFGIIAL 233  
 RESULT 7  
 ID TNFA\_PAPHU STANDARD; PRT; 233 AA.  
 AC 077510;  
 DT 15-DEC-1998 (Rel. 37, Created)  
 DT 15-DEC-1998 (Rel. 37, Last sequence update)  
 DT 13-SEP-2005 (Rel. 48, Last annotation update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
 GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Papio hamadryas ursinus (Chacma baboon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;  
 OC Cercopitheidae; Cercopithecinae; Papio.  
 OX NCBI\_TaxID=36229;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE [MRNA].  
 RX MEDLINE=98147379; PubMed=9488055; DOI=10.1016/S0161-5890(97)00124-7;  
 RA Haudek S.B., Redl H., Schlag G., Giroir B.P.;  
 RT "Complementary DNA (cDNA) sequence of baboon tumor necrosis factor  
 RT alpha.";  
 RL Mol. Immunol. 34:1041-1042(1997).  
 CC -1- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
 CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can  
 CC induce cell death of certain tumor cell lines. It is potent  
 CC pyrogen causing fever by direct action or by stimulation of  
 CC interleukin 1 secretion and is implicated in the induction of  
 CC cachexia. Under certain conditions it can stimulate cell  
 CC proliferation and induce cell differentiation.  
 CC -1- SUBUNIT: Homotrimer (By similarity).  
 CC -1- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
 CC extracellular soluble form (By similarity).  
 CC -1- PTM: The soluble form derives from the membrane form by  
 CC proteolytic processing (By similarity).  
 CC -1- PTM: The membrane form, but not the soluble form, is

phosphorylated on serine residues. Dephosphorylation of the  
 membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
 similarity).  
 -1- SIMILARITY: Belongs to the tumor necrosis factor family.  
 This Swiss-Prot entry is copyright. It is produced through a collaboration  
 between the Swiss Institute of Bioinformatics and the EMBL Outstation -  
 the European Bioinformatics Institute. There are no restrictions on its  
 use as long as its content is in no way modified and this statement is not  
 removed.  
 EMBL; AF019963; AAC31675.1; -; mRNA.  
 HSSP; P01375; 4TSV.  
 SMR; O77510; 82-233.  
 InterPro; IPR006053; TNF\_abc.  
 InterPro; IPR002959; TNF\_alpha.  
 InterPro; IPR006052; TNF family.  
 InterPro; IPR003636; TNF\_subf.  
 PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 Pfam; PF00229; TNF; 1.  
 PRINTS; PRO1234; TNECROSISFCT.  
 PRINTS; PRO1235; TNFALPHA.  
 ProDom; PD002012; TNF\_subf; 1.  
 SMART; SM00207; TNF; 1.  
 PROSITE; PS00251; TNE\_1; 1.  
 PROSITE; PS0049; TNE\_2; 1.  
 Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 KW CHAIN 1 233  
 FT CHAIN 77 233  
 FT TOPO\_DOM 1 35  
 FT TRANSMEM 36 56  
 FT TOPO\_DOM 57 233  
 FT SITE 76 77  
 FT MOD\_RES 2 2  
 FT DISULFID 145 177  
 FT SEQUENCE 233 AA; 25658 MW; B9403255058D4A03 CRC64;  
 Query Match 93.7%; Score 755; DB 1; Length 233;  
 Best Local Similarity 93.6%; Pred. No. 9.4e-69;  
 Matches 147; Conservative 1; Mismatches 9; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
 DB 77 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 136  
 QY 61 QVLFSGQGCPSPTHVLLTHTISRIAVSYQTRVNLSSAISPQORETPEGAALPWYEPIYL 120  
 DB 137 QVLFSGQGCPSPTHVLLTHTISRIAVSYQTRVNLSSAISPQORETPEGAALPWYEPIYL 196  
 QY 121 GGVFQLEKGRLSAEINLPDYLDFAESGVYFGIIAL 157  
 DB 197 GGVFQLEKGRLSAEINLPDYLDFAESGVYFGIIAL 233  
 RESULT 8  
 ID TNFA\_PAPAN STANDARD; PRT; 233 AA.  
 AC P59695;  
 DT 10-OCT-2003 (Rel. 42, Created)  
 DT 10-OCT-2003 (Rel. 42, Last sequence update)  
 DT 13-SEP-2005 (Rel. 48, Last annotation update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
 GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Papio anubis (Olive baboon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;  
 OC Cercopitheidae; Cercopithecinae; Papio.  
 OX NCBI\_TaxID=9555;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.



```

RX MEDLINE=21383618; PubMed=11491535; DOI=10.1007/s002510100322;
RA Villinger F.J., Bostik P., Mayne A.E., King C.L., Genain C.P.,
RA Weiss W.R., Aneari A.A.;
RT "Cloning, sequencing, and homology analysis of nonhuman primate
RT Fas/Fas-ligand and co-stimulatory molecules.";
RL Immunogenetics 53:315-328(2001).
CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia. Under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation (By similarity).
CC -!- SUBUNIT: Homotrimer (By similarity).
CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -!- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -!- PTM: The membrane form, but not the soluble form, is
CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.
CC -----
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC -----
DR EMBL; AY234222; AA085335.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; P59695; 82-233.
DR InterPro; IPR006053; TNF_abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS0049; TNF_2; 1.
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 233
FT FT
FT FT
FT CHAIN 77 233
FT FT
FT TOPO_DOM 1 34
FT TRANSMEM 35 57
FT FT
FT FT
FT TOPO_DOM 58 233
FT SITE_76 77
FT MOD_RES 2 2
FT DISULFID 145 177
FT SEQUENCE 233 AA; 25736 MW; 0C477F9BB6CC9909 CRC64;
Query Match 93.3%; Score 752; DB 1; Length 233;
Best Local Similarity 93.6%; Pred. No. 1.9e-68;
Matches 147; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

QY 1 VRSSRTPSDPAVHVAVNPQAGQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 77 VRSSRTPSDKPAHVHVAVNPQAGQQLWLNRRANALLANGVELTDNLQVVPSEGLYLIYS 136
QY 61 QVLFSGGCGPSTHLLTHTTSRIASVQTRVNLSSAISPQRETPEGALPWYEPYIL 120
DB 137 QVLFKGGCGPNSHVLLTHTTSRIASVQTRVNLSSAISPQRETPEGAKPWYEPYIL 196
QY 121 GGVFQLETKGRLSAEINRPDYLDFAESGQVYFGIALL 157

```

```

DB 197 GGVFQLETKGRLSAEINRPDYLDFAESGQVYFGIALL 233
RESULT 9
O97543 AOTNA
ID O97543 AOTNA PRELIMINARY; PRT; 149 AA.
AC O97543;
DT 01-MAY-1999 (TREMELrel. 10, Created)
DT 01-MAY-1999 (TREMELrel. 10, Last sequence update)
DT 01-OCT-2003 (TREMELrel. 25, Last annotation update)
DE Tumor necrosis factor alpha (Fragment).
GN Name=TNF-alpha;
OS Aotus nancymae (Ma's night monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC Aotinae; Aotus.
OX NCBI_TaxID=37293;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
RT in four species of owl monkey.";
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF014513; AAD01539.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; O97543; 1-149.
DR GO; GO:0015020; C:membrane; IEA.
DR GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P:immune response; IEA.
DR InterPro; IPR006053; TNF_abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS0049; TNF_2; 1.
FT NON_TER 1
FT NON_TER 149
FT NON_TER 149
SQ SEQUENCE 149 AA; 16466 MW; 3C2A6140778EFA8A CRC64;
Query Match 92.1%; Score 742; DB 2; Length 149;
Best Local Similarity 96.0%; Pred. No. 1.2e-67;
Matches 143; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 8 PSDAPVHVAVNPQAGQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYSQVLFSGQ 67
DB 1 PSDKPAHVHVAVNPQAGQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYSQVLFKQ 60
QY 68 GCPSTHLLTHTTSRIASVQTRVNLSSAISPQRETPEGALPWYEPYILGGVFOLE 127
DB 61 GCPSTHLLTHTTSRIASVQTRVNLSSAISPQRETPEGAKPWYEPYILGGVFOLE 120
QY 128 TGDRLSAEINRPDYLDFAESGQVYFGIIA 156
DB 121 KGDRLSAEINRPDYLDFAESGQVYFGIIA 149
RESULT 10
TNFA CANFA
ID TNFA CANFA STANDARD; PRT; 233 AA.
AC P51742; Q28339;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor
DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].

```

GN Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Canis familiaris (Dog).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Canidae;  
 OC Canis.  
 OX NCBI\_TaxID=9615;  
 RN [1]\_TNFOTIDE SEQUENCE [GENOMIC DNA].  
 RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].  
 RA Fiers W.;  
 RT "Tumour necrosis factor.";  
 RL (in) Sim E. (eds.);  
 RL The natural immune system humoral factors, pp.65-119, IRL Press,  
 RL Oxford (1993).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE [MRNA].  
 RA Zucker K., Lu P., Fuller L., Aethana D., Esquenazi V., Miller J.;  
 RT "Cloning and expression of the cDNA for canine tumor necrosis factor-  
 alpha in E. coli.";  
 RL Lymphokine Res. 13:191-196(1994).  
 RN [3]  
 RP NUCLEOTIDE SEQUENCE [GENOMIC DNA].  
 RA Wagner J.L., Falti Y., DiDario D.D.;  
 RT "Genomic map of a portion of the canine MHC class I histocompatibility  
 complex.";  
 RL Submitted (SEP-2003) to the EMBL/GenBank/DBJ databases.  
 RN [4]  
 RP NUCLEOTIDE SEQUENCE [MRNA] OF 74-205.  
 RC STRAIN=Beagle; TISSUE=Blood;  
 RA Gilmore W.H., Carter S.D., Bennett M., Barnes A., Kelly D.F.;  
 RT "Expression of canine TNF, IL-1 and IL-6 mRNAs in peripheral blood  
 monocytes and cell lines.";  
 RL Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.  
 CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and  
 CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can  
 CC induce cell death of certain tumor cell lines. It is potent  
 CC pyrogen causing fever by direct action or by stimulation of  
 CC interleukin 1 secretion and is implicated in the induction of  
 CC cachexia. Under certain conditions it can stimulate cell  
 CC proliferation and induce cell differentiation.  
 CC -!- SUBUNIT: Homotrimer (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an  
 CC extracellular soluble form (By similarity).  
 CC -!- PTM: The soluble form derives from the membrane form by  
 CC proteolytic processing (By similarity).  
 CC -!- PTM: The membrane form, but not the soluble form, is  
 CC phosphorylated on serine residues. Dephosphorylation of the  
 CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By  
 CC similarity).  
 CC -!- SIMILARITY: Belongs to the tumor necrosis factor family.  
 CC  
 CC This Swiss-Prot entry is copyright. It is produced through a collaboration  
 CC between the Swiss Institute of Bioinformatics and the EMBL outstation -  
 CC the European Bioinformatics Institute. There are no restrictions on its  
 CC use as long as its content is in no way modified and this statement is not  
 CC removed.  
 CC  
 CC EMBL; X94932; CAA64403.1; -; Genomic DNA.  
 CC EMBL; S74068; AAB32391.1; -; mRNA.  
 CC EMBL; AY423389; AAR27885.1; -; Genomic DNA.  
 CC EMBL; Z70046; CAA93908.1; -; mRNA.  
 CC HSSP; P01375; 4TSV.  
 CC SMR; P51742; 82-233.  
 CC Ensembl; ENSCARG0000000517; Canis familiaris.  
 CC InterPro; IPR006053; TNF abc.  
 CC InterPro; IPR002959; TNF alpha.  
 CC InterPro; IPR006052; TNF family.  
 CC InterPro; IPR003636; TNF subf.  
 CC PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 CC Pfam; PF00229; TNF; 1.  
 CC PRINTS; PR01234; TNFCROSISFCT.  
 CC PRINTS; PR01235; TNFALPHA.  
 CC ProDom; PD002012; TNF subf; 1.  
 CC SMART; SM00207; TNF; 1.

DR PROSITE; PS00251; TNF\_1; 1.  
 DR PROSITE; PS50049; TNF\_2; 1.  
 KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 FT CHAIN 1 233  
 FT CHAIN 77 233  
 FT TOPO\_DOM 1 35  
 FT TRANSMEM 36 56  
 FT TOPO\_DOM 57 233  
 FT SITE 76 77  
 FT MOD\_RES 2 2  
 FT DISULFID 145 177  
 FT CONFLICT 59 60  
 FT CONFLICT 56 66  
 FT CONFLICT 74 74  
 FT CONFLICT 111 111  
 FT CONFLICT 116 116  
 FT CONFLICT 134 135  
 SQ SEQUENCE 233 AA; 25447 MW; 7B2588FBCB25340 CRC64;  
 Query Match 91.3%; Score 736; DB 1; Length 233;  
 Best Local Similarity 89.8%; Pred. No. 8.3e-67;  
 Matches 141; Conservative 7; Mismatches 9; Indels 0; Gaps 0;  
 QY 1 VRSSRTPSDAPVAHVANPOAEGQLWLNRRANALLANGVELRDNLVPSGGLYLYS 60  
 DB 77 VKSSRTPSDAPVAHVANPOAEGQLWLNRRANALLANGVELTDNLVPSDGLYLYS 136  
 QY 61 QVLFSGQCPSTHLLTHTISRIASVYQTRVNLISAIASPCQRETPEGAEALPWTEPIYL 120  
 DB 137 QVLFKGQCPSTHLLTHTISRFAVSQTKVNLISAIKSPCQRETPEGTEAKPWTEPIYL 196  
 QY 121 GGVFOLETGDRLSABINRPDYLDFAESGVYFGIIAL 157  
 DB 197 GGVFOLEKGRDLSABINLPYLDFAESGVYFGIIAL 233

## RESULT 11

TFNA\_FELCA STANDARD; PRT; 233 AA.  
 AC P19101; QBHYMO;  
 DT 01-NOV-1990 (Rel. 16, Created)  
 DT 10-OCT-2003 (Rel. 42, Last sequence update)  
 DT 13-SEP-2005 (Rel. 48, Last annotation update)  
 DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor  
 DE ligand superfamily member 2) (TNF-a) (Cachectin) [contains: Tumor  
 DE necrosis factor, membrane form; Tumor necrosis factor, soluble form].  
 OS Name=TNF; Synonyms=TNFA, TNFSF2;  
 OS Felis silvestris catus (Cat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;  
 OC Felinae; Felis.  
 OX NCBI\_TaxID=9685;  
 RN [1]  
 RP NUCLEOTIDE SEQUENCE.  
 RC TISSUE=Blood;  
 RX MEDLINE=91016860; PubMed=2216740;  
 RA McGraw R.A., Coffee B.W., Otto C.M., Drews R.T., Rawlings C.A.;  
 RT "Gene sequence of feline tumor necrosis factor alpha.";  
 RL Nucleic Acids Res. 18:5563-5563(1990).  
 RN [2]  
 RP NUCLEOTIDE SEQUENCE [MRNA].  
 RC TISSUE=Bone marrow;  
 RA Daniel S.L., Brenner C.A., Legendre A.M., Solomon A., Rouse B.T.;  
 RT "Feline cytokines TNF alpha and IL-1 beta: PCR cloning and sequencing  
 RT of cDNA.";  
 RL Anim. Biotechnol. 3:117-121(1992).  
 RN [3]  
 RP NUCLEOTIDE SEQUENCE OF 95-185.  
 RA Susott E.E., Kollo W.A., Venta P.J., Ewart S.L.;  
 RT "Characterization of 8 feline type I markers.";  
 RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.  
 CC -!- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and



TNFRSF1B/TNFR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

-1- SUBUNIT: Homotrimer (By similarity).

-1- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an extracellular soluble form (By similarity).

-1- PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).

-1- PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By similarity).

-1- SIMILARITY: Belongs to the tumor necrosis factor family.

-----

This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not removed.

EMBL; X54000; CAA37948.1; -; Genomic\_DNA.  
 EMBL; M92061; AAA30818.1; -; mRNA.  
 EMBL; AF459810; AAO15590.1; -; Genomic\_DNA.  
 PIR; S11688; S11688.  
 HSSP; P01375; 4TSV.  
 SMR; P19101; 82-233.  
 InterPro; IPR006053; TNF abc.  
 InterPro; IPR002959; TNF\_alpha.  
 InterPro; IPR006052; TNF\_family.  
 InterPro; IPR003636; TNF\_subf.  
 PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 Pfam; PF00229; TNF; 1.  
 PRINTS; PR01234; TNECROSISFCT.  
 PRINTS; PR01235; TNFALPHA.  
 ProDom; PD002012; TNF\_subf; 1.  
 SMART; SM00207; TNF; 1.  
 PROSITE; PS00251; TNF\_1; 1.  
 PROSITE; PS0049; TNF\_2; 1.  
 Cytokine; Phosphorylation; Signal-anchor; Transmembrane.  
 FT CHAIN 1 233 Tumor necrosis factor, membrane form.  
 FT CHAIN 77 233 Tumor necrosis factor, soluble form.  
 FT TOPO\_DOM 1 35 Cytoplasmic (Potential).  
 FT TRANSMEM 36 56 Signal-anchor for type II membrane protein (Potential).  
 FT TOPO\_DOM 57 233 Extracellular (Potential).  
 FT SITE\_ 76 77 Cleavage (by ADAM17) (By similarity).  
 FT MOD\_RES 2 2 Phosphoserine (by CK1) (By similarity).  
 FT DISULFID 145 177 By similarity.  
 FT CONFLICT 28 28 G -> R (in Ref. 2).  
 FT CONFLICT 104 104 W -> R (in Ref. 1).  
 FT CONFLICT 141 141 T -> K (in Ref. 3).  
 FT CONFLICT 151 151 L -> H (in Ref. 2).  
 FT CONFLICT 155 155 T -> A (in Ref. 1).  
 FT CONFLICT 210 210 T -> A (in Ref. 2).  
 FT SEQUENCE 233 AA; 25382 MW; 03E51823A7863510 CRC64;

Query Match 90.4%; Score 729; DB 1; Length 233;  
 Best Local Similarity 89.8%; Pred. No. 4.3e-66;  
 Matches 141; Conservative 6; Mismatches 10; Indels 0; Gaps 0;

QY 1 VRSSRTPSDPAHVAVVNPQAGQLQWLNRRNALLANGVELRDQLVPSGLYLIYS 60  
 77 LRSSSRTPSDKPAHVAVVNPQAGQLQWLNRRNALLANGVELTDQLKVPDGLYLIYS 136

QY 61 QVLFSGGCGSTHVLTHHTTSRTAVSYQTVNLLSATASPCQETPGEALPWYPIYL 120  
 137 QVLFSGGCGSTHVLTHHTTSRTAVSYQTVNLLSATASPCQETPGEAKPWYPIYL 196

QY 121 GGVFQLEKGRDLSTELNRPYLDFAESGQVYFGIALL 157

Db 197 GGVFQLEKGRDLSTELNRPYLDFAESGQVYFGIALL 233

RESULT 12

TNPA SAISC STANDARD; PRT; 233 AA.

AC Q8MKG8;

DT 10-OCT-2003 (Rel. 42, Created)

DT 10-OCT-2003 (Rel. 42, Last sequence update)

DT 13-SEP-2005 (Rel. 48, Last annotation update)

DE Tumor necrosis factor precursor (TNF-alpha) (Tumor necrosis factor ligand superfamily member 2) (TNF-a) (Cachectin) [Contains: Tumor necrosis factor, membrane form; Tumor necrosis factor, soluble form].

GN Name=TNF; Synonyms=TNFA, TNFSF2;

OS Saimiri sciureus (Common squirrel monkey).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae; Cebinae; Saimiri.

OC Cebinae; Saimiri.

OX NCBI\_TaxID=9521;

RN [1]

RP NUCLEOTIDE SEQUENCE.

RX MEDLINE=21972723; PubMed=11976788; DOI=10.1007/s00251-002-0443-y; Heraud J.M., Lavergne A., Kazanji M.; "Molecular cloning, characterization, and quantification of squirrel monkey (Saimiri sciureus) Th1 and Th2 cytokines."; Immunogenetics 54:20-29(2002).

RN [2]

RP NUCLEOTIDE SEQUENCE.

RX MEDLINE=22516846; PubMed=12628762; DOI=10.1016/S0165-2427(03)00018-7; Merion F., Lavergne A., Behr C., Contamin H.; "Sequencing and analysis of genomic DNA and cDNA encoding TNF-alpha in the squirrel monkey (Saimiri sciureus)."; Vet. Immunol. Immunopathol. 92:37-43(2003).

CC -1- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin 1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation (By similarity).

CC -1- SUBUNIT: Homotrimer (By similarity).

CC -1- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an extracellular soluble form (By similarity).

CC -1- PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).

CC -1- PTM: The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By similarity).

CC -1- SIMILARITY: Belongs to the tumor necrosis factor family.

-----

This Swiss-Prot entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use as long as its content is in no way modified and this statement is not removed.

EMBL; AF294760; AAK92047.1; -; mRNA.  
 EMBL; AJ437697; CAD27179.1; -; Genomic\_DNA.  
 EMBL; AJ437698; CAD27180.1; -; mRNA.  
 HSSP; P01375; 4TSV.  
 SMR; Q8MKG8; 82-233.  
 InterPro; IPR006053; TNF abc.  
 InterPro; IPR002959; TNF\_alpha.  
 InterPro; IPR006052; TNF\_family.  
 InterPro; IPR003636; TNF\_subf.  
 PANTHER; PTHR11471:SF4; TNF\_alpha; 1.  
 Pfam; PF00229; TNF; 1.  
 PRINTS; PR01234; TNECROSISFCT.  
 PRINTS; PR01235; TNFALPHA.  
 ProDom; PD002012; TNF\_subf; 1.  
 SMART; SM00207; TNF; 1.  
 PROSITE; PS00251; TNF\_1; 1.

```

DR PROSITE; PS50049; TNF_2; 1.
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 233 Tumor necrosis factor, membrane form (By
FT CHAIN 77 233 Tumor necrosis factor, soluble form (By
FT CHAIN 77 233 Tumor necrosis factor, soluble form (By
FT TOPO_DOM 1 32 Cytoplasmic (Potential).
FT TRANSMEM 33 55 Signal-anchor for type II membrane
FT TRANSMEM 33 55 protein (By similarity).
FT TOPO_DOM 56 233 Extracellular (Potential).
FT SITE 76 77 Cleavage (by ADAM17) (By similarity).
FT MOD_RES 2 2 Phosphoserine (by CK1) (By similarity).
FT DISULFID 145 177 By similarity.
SQ SEQUENCE 233 AA; 25578 MW; 197FB066F744FCAD CRC64;

Query Match 87.3%; Score 704; DB 1; Length 233;
Best Local Similarity 87.3%; Pred. No. 1.6e-63;
Matches 137; Conservative 6; Mismatches 14; Indels 0; Gaps 0;

QY 1 VRSSRTSPDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLYS 60
DB 77 VRSSGRIPSDKPVAVHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLYS 136

QY 61 QVLFSGGCGPSTHVLTHTSIRIAVSQYRVNLLSAIASPCQRETPEGAEALPWYEPYIL 120
DB 137 QVLFSGGCGPSTHVLTHTSIRIAVSQYRVNLLSAIASPCQRETPEGAEALPWYEPYIL 196

QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
DB 197 GGVFQLEKGDQLSAEINRPDYLDFAESGQVYFGIIAL 233

RESULT 13
TNFA_HORSE STANDARD; PRT; 234 AA.
AC P29553; Q9TJT3;
DT 01-APR-1993 (Rel. 25, Created)
DT 01-APR-1993 (Rel. 25, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Tumor necrosis factor precursor (TNF-alpha) (tumor necrosis factor
DE ligand superfamily member 2) (TNF-a) (cachectin) [Contains: Tumor
DE necrosis factor, membrane form] (Tumor necrosis factor, soluble form).
GS Name=TNF; Synonyms=TNFA, TNFSF2;
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=92084125; PubMed=1748301; DOI=10.1016/0378-1119(91)90333-7;
RA Su X., Morris D.D., McGraw R.A.;
RT "Cloning and characterization of gene TNF alpha encoding equine tumor
RT necrosis factor alpha.";
RL Gene 107:319-321(1991).
RN [2]
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=Thoroughbred; TISSUE=Artery;
RA Ishida N., Sato F., Hasegawa T.;
RT "Molecular cloning of equine tumor necrosis factor-alpha mRNA.";
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Cytokine that binds to TNFRSF1A/TNFR1 and
CC TNFRSF1B/TNFR. It is mainly secreted by macrophages and can
CC induce cell death of certain tumor cell lines. It is potent
CC pyrogen causing fever by direct action or by stimulation of
CC interleukin 1 secretion and is implicated in the induction of
CC cachexia. Under certain conditions it can stimulate cell
CC proliferation and induce cell differentiation.
CC -1- SUBUNIT: Homotrimer (By similarity).
CC -1- SUBCELLULAR LOCATION: Type II membrane protein. Also exists as an
CC extracellular soluble form (By similarity).
CC -1- PTM: The soluble form derives from the membrane form by
CC proteolytic processing (By similarity).
CC -1- PTM: The membrane form, but not the soluble form, is

```

```

CC phosphorylated on serine residues. Dephosphorylation of the
CC membrane form occurs by binding to soluble TNFRSF1A/TNFR1 (By
CC similarity).
CC -1- SIMILARITY: Belongs to the tumor necrosis factor family.
CC
CC This Swiss-Prot entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use as long as its content is in no way modified and this statement is not
CC removed.
CC
CC EMBL; M64087; AAA30959.1; -; Genomic DNA.
DR EMBL; AB035735; BAA88349.1; -; mRNA.
DR PIR; J01344; J01344.
DR HSP; P01375; IABM.
DR SMR; P29553; 83-234.
DR InterPro; IPR006053; TNF abc.
DR InterPro; IPR002959; TNF alpha.
DR InterPro; IPR006052; TNF family.
DR InterPro; IPR003636; TNF subf.
DR PANTHER; PTHR11471:SF4; TNF_alpha; 1.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNCRSISFCT.
DR PRINTS; PR01235; TNFALPHA.
DR ProDom; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS0049; TNF_2; 1.
KW Cytokine; Phosphorylation; Signal-anchor; Transmembrane.
FT CHAIN 1 234 Tumor necrosis factor, membrane form.
FT CHAIN 78 234 Tumor necrosis factor, soluble form.
FT TOPO_DOM 1 35 Cytoplasmic (Potential).
FT TRANSMEM 36 56 Signal-anchor for type II membrane
FT TRANSMEM 36 56 protein (Potential).
FT TOPO_DOM 57 234 Extracellular (Potential).
FT SITE 77 78 Cleavage (by ADAM17) (By similarity).
FT MOD_RES 2 2 Phosphoserine (by CK1) (By similarity).
FT DISULFID 146 178 By similarity.
FT CONFLICT 177 179 PCH -> LAN (in Ref. 2).
SQ SEQUENCE 234 AA; 25469 MW; E79ACE91143DF373 CRC64;

Query Match 86.2%; Score 695; DB 1; Length 234;
Best Local Similarity 85.4%; Pred. No. 1.3e-62;
Matches 134; Conservative 11; Mismatches 12; Indels 0; Gaps 0;

QY 1 VRSSRTSPDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLYS 60
DB 78 LRSSRTSPDKPVAVHVANPQAEQQLWLNRRANALLANGVKLTQNLVPLDGLYLYS 137

QY 61 QVLFSGGCGPSTHVLTHTSIRIAVSQYRVNLLSAIASPCQRETPEGAEALPWYEPYIL 120
DB 138 QVLFSGGCGPSTHVLTHTSIRIAVSQYRVNLLSAIASPCQRETPEGAEALPWYEPYIL 197

QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
DB 198 GGVFQLEKGDQLSAEINRPDYLDFAESGQVYFGIIAL 234

RESULT 14
O97538 ACTVO
ID O97538 ACTVO PRELIMINARY; PRT; 149 AA.
AC O97538_
DT 01-MAY-1999 (TREMBLrel. 10, Created)
DT 01-MAY-1999 (TREMBLrel. 10, Last sequence update)
DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)
DE Tumor necrosis factor alpha (Fragment).
GN Name=TNF-alpha;
OS Aotus vociferans (Spix's owl monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC Aotinae; Aotus.
OX NCBI_TaxID=57176;
RN [1]

```

```
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
in four species of owl monkey.";
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF014508; AAD01534.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; O97538; 1-149.
DR GO; GO:0016020; C:membrane; IEA.
DR GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P:immune response; IEA.
DR InterPro; IPR006053; TNF abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRODOM; PD002012; TNF_subf; 1.
DR SMART; SM00207; TNF; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS50049; TNF_2; 1.
FT NON_TER 1
FT NON_TER 149
SQ SEQUENCE 149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;

Query Match 86.0%; Score 693; DB 2; Length 149;
Best Local Similarity 89.3%; Pred. No. 1.2e-62;
Matches 133; Conservative 5; Mismatches 11; Indels 0; Gaps 0;

QY 8 PSDAPVAHVAVNPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIVSQVLPFGQ 67
DB 1 PSDKPVAVHVAVNPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIVSQVLPFGQ 60

QY 68 GCPSTHVLTHTSIRIAVSQTRVNLLSAISPQRETPEGALPWPYPIYLGGVFQLE 127
DB 61 GCPSTFMLLTHSIRIAVSQAKVNLLSAISKPCQRETGRGAKTNPWYBPIYLGGVFQLE 120

QY 128 TGDRLSAEINRPDYLDPAESGQVYFGIIA 156
DB 121 KGDRLSAEINLPDYLDLAESGQVYFGIIA 149

RESULT 15
Q9TTG8_AOTNI PRELIMINARY; PRT; 149 AA.
AC Q9TTG8;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Tumor necrosis factor alpha (fragment).
GN Names=TNF-alpha;
OS Aotus nigriceps (Black-headed owl monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC Aotinae; Aotus.
OX NCBI_TaxID=57175;
RN [1]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=22354194; PubMed=12466897; DOI=10.1007/s00251-002-0512-2;
RA Hernandez E.C., Suarez C.F., Mendez J.A., Echeverry S.J.,
RA Murillo L.A., Patarroyo M.E.;
RT "Identification, cloning, and sequencing of different cytokine genes
in four species of owl monkey.";
RL Immunogenetics 54:645-653(2002).
DR EMBL; AF097328; AAF21303.1; -; mRNA.
DR HSSP; P01375; 4TSV.
DR SMR; Q9TTG8; 1-149.
DR GO; GO:0016020; C:membrane; IEA.
DR GO; GO:0005164; F:tumor necrosis factor receptor binding; IEA.
DR GO; GO:0006955; P:immune response; IEA.
```

```
DR InterPro; IPR006053; TNF abc.
DR InterPro; IPR002959; TNF_alpha.
DR InterPro; IPR006052; TNF_family.
DR InterPro; IPR003636; TNF_subf.
DR Pfam; PF00229; TNF; 1.
DR PRINTS; PR01234; TNECROSISFCT.
DR PRODOM; PD002012; TNF_subf; 1.
DR PROSITE; PS00251; TNF_1; 1.
DR PROSITE; PS50049; TNF_2; 1.
FT NON_TER 1
FT NON_TER 149
SQ SEQUENCE 149 AA; 16415 MW; 86F1B9BCED16E689 CRC64;

Query Match 86.0%; Score 693; DB 2; Length 149;
Best Local Similarity 89.3%; Pred. No. 1.2e-62;
Matches 133; Conservative 5; Mismatches 11; Indels 0; Gaps 0;

QY 8 PSDAPVAHVAVNPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIVSQVLPFGQ 67
DB 1 PSDKPVAVHVAVNPQAEGLQWLNRANALLANGVELRDNLVVPSEGLYLIVSQVLPFGQ 60

QY 68 GCPSTHVLTHTSIRIAVSQTRVNLLSAISPQRETPEGALPWPYPIYLGGVFQLE 127
DB 61 GCPSTFMLLTHSIRIAVSQAKVNLLSAISKPCQRETGRGAKTNPWYBPIYLGGVFQLE 120

QY 128 TGDRLSAEINRPDYLDPAESGQVYFGIIA 156
DB 121 KGDRLSAEINLPDYLDLAESGQVYFGIIA 149

Search completed: May 5, 2006, 11:26:00
Job time : 54.5 secs
```

**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.  
OM protein - protein search, using sw model  
Run on: May 5, 2006, 11:22:28 ; Search time 15.25 Seconds  
(without alignments)  
851.153 Million cell updates/sec  
Title: US-10-668-178-16  
Perfect score: 806  
Sequence: 1 VRSSRTSPDAPVHVANP.....RPDYLDFASSGGVYFGIIL 157  
Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5  
Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued Patents AA:\*  
1: /cgn2\_6/ptodata/1/iaa/5 COMB.pep.\*  
2: /cgn2\_6/ptodata/1/iaa/6 COMB.pep.\*  
3: /cgn2\_6/ptodata/1/iaa/H COMB.pep.\*  
4: /cgn2\_6/ptodata/1/iaa/PCTUS COMB.pep.\*  
5: /cgn2\_6/ptodata/1/iaa/RE COMB.pep.\*  
6: /cgn2\_6/ptodata/1/iaa/backfiles1.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	777	96.4	157	1	US-07-794-400-1
2	777	96.4	157	1	US-08-041-648-2
3	777	96.4	157	1	US-08-107-235-1
4	777	96.4	157	1	US-08-217-529-2
5	777	96.4	157	1	US-08-318-193-86
6	777	96.4	157	1	US-08-397-470-1
7	777	96.4	157	1	US-08-192-102-1
8	777	96.4	157	1	US-08-324-799-1
9	777	96.4	157	1	US-08-538-875-1
10	777	96.4	157	1	US-08-394-600B-17
11	777	96.4	157	1	US-08-500-860A-35
12	777	96.4	157	1	US-08-192-861A-1
13	777	96.4	157	1	US-08-600-783-5
14	777	96.4	157	2	US-08-584-031-13
15	777	96.4	157	2	US-08-714-960B-1
16	777	96.4	157	2	US-09-133-119-1
17	777	96.4	157	2	US-08-192-093A-1
18	777	96.4	157	2	US-09-598-784-1
19	777	96.4	157	2	US-09-496-118B-7
20	777	96.4	157	2	US-08-395-456C-17
21	777	96.4	157	2	US-08-487-453A-17
22	777	96.4	157	2	US-09-582-450-13
23	777	96.4	157	2	US-09-934-465-13
24	777	96.4	157	2	US-09-756-301B-1
25	777	96.4	157	2	US-09-756-398B-1
26	777	96.4	157	4	PCT-US92-02190-1
27	777	96.4	157	4	PCT-US93-02475-1

28	777	96.4	157	4	PCT-US95-02513-17
29	777	96.4	157	6	5180811-1
30	777	96.4	158	2	US-09-645-415A-4
31	777	96.4	177	1	US-08-394-600B-21
32	777	96.4	177	2	US-08-395-456C-21
33	777	96.4	177	2	US-08-487-453A-21
34	777	96.4	177	4	PCT-US95-02513-21
35	777	96.4	180	2	US-09-645-415A-8
36	777	96.4	193	1	US-08-889-909A-3
37	777	96.4	193	2	US-09-156-163A-3
38	777	96.4	193	2	US-09-982-308B-3
39	777	96.4	233	1	US-08-323-445A-10
40	777	96.4	233	1	US-08-515-903A-10
41	777	96.4	233	1	US-08-912-227-3
42	777	96.4	233	1	US-08-230-428B-2
43	777	96.4	233	2	US-08-883-086-6
44	777	96.4	233	2	US-08-880-342-37
45	777	96.4	233	2	US-09-589-287B-3

ALIGNMENTS

RESULT 1  
US-07-794-400-1  
; Sequence 1, Application US/07794400  
; Patent No. 5422104  
; GENERAL INFORMATION:  
; APPLICANT: Fiers, W.  
; APPLICANT: Tavernier, J.  
; APPLICANT: Van Ostade, X.  
; TITLE OF INVENTION: TNF-Mutains  
; NUMBER OF SEQUENCES: 24  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Hoffmann-La Roche Inc.  
; STREET: 340 Kingsland Street  
; CITY: Nutley  
; STATE: New Jersey  
; COUNTRY: USA  
; ZIP: 07110  
; COMPUTER READABLE FORM: disk  
; MEDIUM TYPE: Floppy disk  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07794,400  
; FILING DATE: 19911120  
; CLASSIFICATION: 435  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: EP 90810901.0  
; FILING DATE: 21-NOV-1990  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Krovatin, William  
; REGISTRATION NUMBER: 33256  
; REFERENCE/DOCKET NUMBER: 4105/136-00  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (201) 235-4387  
; TELEFAX: (201) 235-3500  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 157 amino acids  
; TYPE: AMINO ACID  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; ORIGINAL SOURCE:  
; ORGANISM: Homo sapiens  
; TISSUE TYPE: Blood  
; CELL TYPE: Macrophage  
US-07-794-400-1

Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;



APPLICANT: Banner, David  
APPLICANT: Lesslauer, Werner  
APPLICANT: Lotscher, Hansreudt  
APPLICANT: Stuber, Dietrich  
TITLE OF INVENTION: Tumor Necrosis Factor Muteins  
NUMBER OF SEQUENCES: 7  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: George M. Gould, Esq., Hoffmann-La Roche Inc.  
STREET: 340 Kingeland Street  
CITY: Nutley  
STATE: New Jersey  
COUNTRY: U.S.  
ZIP: 07110  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/217,529  
FILING DATE: 24-MAR-1994  
CLASSIFICATION: 530  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: EP 93810224.1  
FILING DATE: 29-MAR-1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Roseman, Catherine R  
REGISTRATION NUMBER: 34240  
REFERENCE/DOCKET NUMBER: 4105/155  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (201) 235-6208  
TELEFAX: (201) 235-3500  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-217-529-2

Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVAVNPQAEQQLQWLNRRANALLANGVELRDNLQVVPSSGLYLIYS 60  
DB 1 VRSSRTPSDKPVAHVAVNPQAEQQLQWLNRRANALLANGVELRDNLQVVPSSGLYLIYS 60

QY 61 QVLFSGGCGPSTHLLTHTTISRIVSYQTRVNLLSAIAISPCQRETPEGAEALPWYBPIYL 120  
DB 61 QVLFKGCGCPSTHLLTHTTISRIVSYQTKVNLLSAIAISKPCQRETPEGAEALPWYBPIYL 120

QY 121 GGVFQLETKDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
DB 121 GGVFQLEKGRDLSAEINRPDYLDFAESGGVYFGIIAL 157

RESULT 5  
US-08-318-193-86  
Sequence 86, Application US/08318193  
Patent No. 5641663  
GENERAL INFORMATION:  
APPLICANT: GARVIN, Robert T.  
APPLICANT: MALEK, Lawrence T.  
TITLE OF INVENTION: AN EXPRESSION SYSTEM FOR THE SECRETION  
TITLE OF INVENTION: OF BIOACTIVE HUMAN GRANULOCYTE MACROPHAGE COLONY  
TITLE OF INVENTION: STIMULATING FACTOR (GM-CSF) AND OTHER HETEROLOGOUS  
TITLE OF INVENTION: PROTEINS FROM STREPTOCOCCUS  
NUMBER OF SEQUENCES: 91  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Foley & Lardner  
STREET: 1800 Diagonal Road, Suite 500  
CITY: Alexandria

STATE: Virginia  
COUNTRY: USA  
ZIP: 22131-0299  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/318,193  
FILING DATE:  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/07/935,314  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: BENT, Stephen A.  
REGISTRATION NUMBER: 29,768  
REFERENCE/DOCKET NUMBER: 18740/116 CACO  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (703) 836-9300  
TELEFAX: (703) 683-4109  
TELEX: 899149  
INFORMATION FOR SEQ ID NO: 86:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-318-193-86

Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVAVNPQAEQQLQWLNRRANALLANGVELRDNLQVVPSSGLYLIYS 60  
DB 1 VRSSRTPSDKPVAHVAVNPQAEQQLQWLNRRANALLANGVELRDNLQVVPSSGLYLIYS 60

QY 61 QVLFSGGCGPSTHLLTHTTISRIVSYQTRVNLLSAIAISPCQRETPEGAEALPWYBPIYL 120  
DB 61 QVLFKGCGCPSTHLLTHTTISRIVSYQTKVNLLSAIAISKPCQRETPEGAEALPWYBPIYL 120

QY 121 GGVFQLETKDRLSAEINRPDYLDFAESGGVYFGIIAL 157  
DB 121 GGVFQLEKGRDLSAEINRPDYLDFAESGGVYFGIIAL 157

RESULT 6  
US-08-397-470-1  
Sequence 1, Application US/08397470  
Patent No. 5652353  
GENERAL INFORMATION:  
APPLICANT: Fiers, W.  
APPLICANT: Tavernier, J.  
APPLICANT: Van Ostade, X.  
TITLE OF INVENTION: TNF-Muteins  
NUMBER OF SEQUENCES: 24  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Hoffmann-La Roche Inc.  
STREET: 340 Kingsland Street  
CITY: Nutley  
STATE: New Jersey  
COUNTRY: USA  
ZIP: 07110  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/397,470

```

; FILING DATE: 01-MAR-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/794,400
; FILING DATE: 20-NOV-1991
; APPLICATION NUMBER: EP 90810901.0
; FILING DATE: 21-NOV-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Krovatin, William
; REGISTRATION NUMBER: 33256
; REFERENCE/DOCKET NUMBER: 4105/136-00
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (201) 235-4387
; TELEFAX: (201) 235-3500
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; ORGANISM: Homo sapiens
; TISSUE TYPE: Blood
; CELL TYPE: Macrophage
;
US-08-397-470-1

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 3.9e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
QY 61 QVLFSGGCGPSTHVLTHITISRIAVSYQTRVNLISAIASPCQRETPEGAALPWYEPIYL 120
DB 61 QVLFKGCGCPSTHVLTHITISRIAVSYQTKVNLISAIKSPCQRETPEGAALPWYEPIYL 120
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGVYFGIAL 157
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGVYFGIAL 157

RESULT 7
US-08-192-102-1
; Sequence 1, Application US/08192102
; Patent No. 5656272
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter E.
; APPLICANT: Grayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott A.
; TITLE OF INVENTION: ANTI-TNF ANTIBODIES AND ASSAYS EMPLOYING
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESS: Hamilton, Brook, Smith & Reynolds, P.C.
; CITY: Lexington
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02173
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/192,102
; FILING DATE: 04-FEB-1994
; CLASSIFICATION: 424

```

```

; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/08/192,093
; FILING DATE: 04-FEB-1994
; APPLICATION NUMBER: US 08/013,413
; FILING DATE: 02-FEB-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/010,406
; FILING DATE: 29-JAN-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/943,852
; FILING DATE: 11-SEP-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/853,606
; FILING DATE: 18-MAR-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/670,827
; FILING DATE: 18-MAR-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Brook, David E.
; REGISTRATION NUMBER: 22,592
; REFERENCE/DOCKET NUMBER: NTU93-01M3
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617) 861-6240
; TELEFAX: (617) 861-9540
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
;
US-08-192-102-1

Query Match 96.4%; Score 777; DB 1; Length 157;
Best Local Similarity 96.2%; Pred. No. 3.9e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
QY 61 QVLFSGGCGPSTHVLTHITISRIAVSYQTRVNLISAIASPCQRETPEGAALPWYEPIYL 120
DB 61 QVLFKGCGCPSTHVLTHITISRIAVSYQTKVNLISAIKSPCQRETPEGAALPWYEPIYL 120
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGVYFGIAL 157
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGVYFGIAL 157

RESULT 8
US-08-324-799-1
; Sequence 1, Application US/08324799
; Patent No. 5698195
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter E.
; APPLICANT: Grayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott A.
; TITLE OF INVENTION: ANTI-TNF ANTIBODIES AND PEPTIDES
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESS: Hamilton, Brook, Smith & Reynolds, P.C.
; CITY: Lexington
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02173
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible

```



OPERATING SYSTEM: PC-DOS/MS-DOS  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/324,799  
FILING DATE: 18-OCT-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,093  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,102  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/192,861  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/013,413  
FILING DATE: 02-FEB-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/010,406  
FILING DATE: 29-JAN-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/943,852  
FILING DATE: 11-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/853,606  
FILING DATE: 18-MAR-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/670,827  
FILING DATE: 18-MAR-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Brook, David E.  
REGISTRATION NUMBER: 22,592  
REFERENCE/DOCKET NUMBER: NYU93-01M4  
TELEPHONE: (617) 861-6240  
TELEFAX: (617) 861-9540  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-324-799-1

Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
DB 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
  
QY 61 QVLFSGGCGPSTHLLTHTISRIASVYQTRVNLLSAISPQORETPEGAEALPWPYPIYL 120  
DB 61 QVLFKGGCGPSTHLLTHTISRIASVYQTKVNLLSAISPQORETPEGAEALPWPYPIYL 120  
  
QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 9  
US-08-538-875-1  
Sequence 1, Application US/08538875  
Patent No. 5773582  
GENERAL INFORMATION:  
APPLICANT: Shin, Hang-Cheol  
APPLICANT: Shin, Nam-Kyu  
APPLICANT: Lee, Inkyung  
TITLE OF INVENTION: KANG, Sungzong  
TITLE OF INVENTION: TUMOR NECROSIS FACTOR MUTAINS  
NUMBER OF SEQUENCES: 73  
CORRESPONDENCE ADDRESS:

ADDRESSEE: Shin, Hang-Cheol  
STREET: Jukong Gocheung Apt. 1014-806, Haan-dong  
CITY: Kwangmyung-ehi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 423-060  
ADDRESSEE: Shin, Nam-Kyu  
STREET: #181-404 Sadang-4-dong, Dongjak-ku  
CITY: Seoul  
STATE:  
COUNTRY: Republic of Korea  
ZIP: 156-094  
ADDRESSEE: Lee, Inkyung  
STREET: 11/2, #302-39 Juan-4-dong, Nam-ku  
CITY: Incheon  
STATE:  
COUNTRY: Republic of Korea  
ZIP: 402-204  
ADDRESSEE: Kang, Sungzong  
STREET: #84-4 Daeshin-dong, Seodaemun-ku  
CITY: Seoul  
STATE:  
COUNTRY: Republic of Korea  
ZIP: 120-160  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette 3.5inch 2.0Mb storage  
COMPUTER: IBM PC/AT  
OPERATING SYSTEM: MS-DOS  
SOFTWARE: WordPerfect 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/538,875  
FILING DATE:  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/08/193,336  
FILING DATE:  
APPLICATION NUMBER: KR 93-1751  
FILING DATE: 9-FEB-1993  
ATTORNEY/AGENT INFORMATION:  
NAME:  
REGISTRATION NUMBER:  
REFERENCE/DOCKET NUMBER:  
TELEPHONE:  
TELEFAX:  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-538-875-1  
  
Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;  
  
QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
DB 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60  
  
QY 61 QVLFSGGCGPSTHLLTHTISRIASVYQTRVNLLSAISPQORETPEGAEALPWPYPIYL 120  
DB 61 QVLFKGGCGPSTHLLTHTISRIASVYQTKVNLLSAISPQORETPEGAEALPWPYPIYL 120  
  
QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 10  
US-08-394-600B-17

```
; Sequence 17, Application US/08394600B
; Patent No. 5843693
; GENERAL INFORMATION:
; APPLICANT: Halenbeck, Robert F.
; APPLICANT: Jewell, David A.
; APPLICANT: Koths, Kirsten E.
; APPLICANT: Kriegler, Michael
; APPLICANT: Perez, Carl
; TITLE OF INVENTION: Compositions for the Inhibition of
; TITLE OF INVENTION: Protein Hormone Formation and Uses Thereof
; NUMBER OF SEQUENCES: 28
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: McAndrews, Held & Malloy, Ltd.
; STREET: 500 West Madison Street; 34th Floor
; CITY: Chicago
; STATE: Illinois
; COUNTRY: United States of America
; ZIP: 60661
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/394,600B
; FILING DATE: 02/27/95
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Donald J. Pochopien
; REGISTRATION NUMBER: 32,167
; REFERENCE/DOCKET NUMBER: 820,005/11850US05
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 312/707-8889
; TELEFAX: 312/707-9155
; TELEX:
;
; QUERY MATCH 96.4%; Score 777; DB 1; Length 157;
; Best Local Similarity 96.2%; Pred. No. 3.9e-74;
; Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
;
; QY 1 VRSSRTPSDAPVAHVANPQAGQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60
; Db 1 VRSSRTPSDKPAHVANPQAGQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60
;
; QY 61 QVLFSGQGPCSTHLLTHTTISRIASVQTRVNLISAIASPCQRETPEGAALPWTEPIYL 120
; Db 61 QVLFKGGQPCSTHLLTHTTISRIASVQTKVNLISAIKSPCQRETPEGAALPWTEPIYL 120
;
; QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
; Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
;
; RESULT 11
; US-08-500-860A-35
; Sequence 35, Application US/08500860A
; Patent No. 5891679
; GENERAL INFORMATION:
; APPLICANT: LUCAS, RUDOLPH
; APPLICANT: DE BAETSELIER, PATRICK
; APPLICANT: FRANSSEN, LUCIE
; APPLICANT: SABLOM, ERWIN
; TITLE OF INVENTION: TNF-MUTEINS, A PROCESS FOR PREPARING THEM AND
; TITLE OF INVENTION: THEIR USE AS ACTIVE SUBSTANCES IN PHARMACEUTICAL COMPOSITIONS
; NUMBER OF SEQUENCES: 36
; CORRESPONDENCE ADDRESS:
```

```
; ADDRESSEE: NIXON & VANDERHUYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/500,860A
; FILING DATE:
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: BYRNE, THOMAS E.
; REGISTRATION NUMBER: 32,205
; REFERENCE/DOCKET NUMBER: 1487-B
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703)816-4000
; TELEFAX: (703)816-4100
; TELEX: 200797 NIXN UR
; INFORMATION FOR SEQ ID NO: 35:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 157 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-500-860A-35
;
; QUERY MATCH 96.4%; Score 777; DB 1; Length 157;
; Best Local Similarity 96.2%; Pred. No. 3.9e-74;
; Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
;
; QY 1 VRSSRTPSDAPVAHVANPQAGQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60
; Db 1 VRSSRTPSDKPAHVANPQAGQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60
;
; QY 61 QVLFSGQGPCSTHLLTHTTISRIASVQTRVNLISAIASPCQRETPEGAALPWTEPIYL 120
; Db 61 QVLFKGGQPCSTHLLTHTTISRIASVQTKVNLISAIKSPCQRETPEGAALPWTEPIYL 120
;
; QY 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
; Db 121 GGVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
;
; RESULT 12
; US-08-132-861A-1
; Sequence 1, Application US/08192861A
; Patent No. 5919452
; GENERAL INFORMATION:
; APPLICANT: Le, Junning
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter E.
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott A.
; TITLE OF INVENTION: METHODS OF TREATING TNF-MEDIATED DISEASE USING
; TITLE OF INVENTION: CHIMERIC ANTI-TNF ANTIBODIES (As Amended)
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
; STREET: Two Militia Drive
; CITY: Lexington
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02173
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
```

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/192,861A  
FILING DATE: 04-FEB-1994  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/013,413  
FILING DATE: 02-FEB-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 08/010,406  
FILING DATE: 29-JAN-1993  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/943,852  
FILING DATE: 11-SEP-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/853,606  
FILING DATE: 18-MAR-1992  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/670,827  
FILING DATE: 18-MAR-1991  
ATTORNEY/AGENT INFORMATION:  
NAME: Brook, David E.  
REGISTRATION NUMBER: 22,592  
REFERENCE/DOCKET NUMBER: NYU93-01M2  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (781) 861-6240  
TELEFAX: (781) 861-9540  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-192-861A-1

Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVAVNPQAGQLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDKPVAVHVAVNPQAGQLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGGCGPSTHLLTHITISRIASVYQTRVNLISAIASPCQRETPEGALPWYPIYL 120  
DB 61 QVLFKGGCGPSTHLLTHITISRIASVYQTRVNLISAIASPCQRETPEGALPWYPIYL 120  
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 121 GGVFQLEKGRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 13  
US-08-600-783-5  
Sequence 5, Application US/08600783  
Patent No. 5962267  
GENERAL INFORMATION:  
APPLICANT: SHIN, Hang Cheol  
APPLICANT: CHANG, Seung Gu  
APPLICANT: KIM, Dae Young  
APPLICANT: KIM, Chong Suh  
TITLE OF INVENTION: Proinsulin Derivative and Process  
TITLE OF INVENTION: for Producing Human Insulin  
NUMBER OF SEQUENCES: 36  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: SHIN, Hang Cheol  
STREET: Seangma-Hanshin Apt. 102-1206,  
STREET: #245 Cholsan-dong  
CITY: Kwangmyung-shi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 423-030  
ADDRESSEE: CHANG, Seung Gu

STREET: Hyundai Apt. 71-203, Aptujong-dong,  
STREET: Kangnam-ku  
CITY: Seoul  
STATE: Seoul  
COUNTRY: Republic of Korea  
ZIP: 135-110  
ADDRESSEE: KIM, Dae Young  
STREET: Sosa Jukong Apt. 108-202, Sosa Bon-dong,  
STREET: Sosa-ku  
CITY: Bucheon-ehi  
STATE: Kyungki-do  
COUNTRY: Republic of Korea  
ZIP: 422-230  
ADDRESSEE: KIM, Chong Suh  
STREET: Garden Heights Apt. 202-801, #100,  
STREET: Hwangkeum-dong, Soosung-ku  
CITY: Taegu  
STATE: Taegu  
COUNTRY: Republic of Korea  
ZIP: 706-040  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk, 3.5 inch, 1.44MB storage  
COMPUTER: IBM PC/AT  
OPERATING SYSTEM: MS-DOS  
SOFTWARE: Word Perfect 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/600,783  
FILING DATE:  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: KR 95-2751  
FILING DATE: 15-FEB-1995  
ATTORNEY/AGENT INFORMATION:  
NAME: Shahan Islam  
REGISTRATION NUMBER: 32,507  
REFERENCE/DOCKET NUMBER:  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (212) 278-1000  
TELEFAX: (212) 953-7249  
INFORMATION FOR SEQ ID NO: 5:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 157 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-600-783-5

Query Match 96.4%; Score 777; DB 1; Length 157;  
Best Local Similarity 96.2%; Pred. No. 3.9e-74;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVAVNPQAGQLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
DB 1 VRSSRTPSDKPVAVHVAVNPQAGQLQWLNRRNALLANGVELRDNLQVVPSEGLYLIYS 60  
QY 61 QVLFSGGCGPSTHLLTHITISRIASVYQTRVNLISAIASPCQRETPEGALPWYPIYL 120  
DB 61 QVLFKGGCGPSTHLLTHITISRIASVYQTRVNLISAIASPCQRETPEGALPWYPIYL 120  
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157  
DB 121 GGVFQLEKGRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 14  
US-08-584-031-13  
Sequence 13, Application US/08584031A  
Patent No. 6030945  
GENERAL INFORMATION:  
APPLICANT: Ashkenazi, Avi J.  
TITLE OF INVENTION: APO-2 LIGAND  
FILE REFERENCE: 11669.22US03

```

; CURRENT APPLICATION NUMBER: US/08/584,031A
; CURRENT FILING DATE: 1996-01-09
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 13
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-08-584-031-13

Query Match          96.4%; Score 777; DB 2; Length 157;
Best Local Similarity 96.2%; Pred. No. 3.9e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
Db 1 VRSSRTPSDKPVAVHVNPAEQGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||

QY 61 QVLFSGGCGPSTHVLTHTTISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
Db 61 QVLFKGQCGPSTHVLTHTTISRIAVSYQTKVNLLSAISPCCORETPEGAEALPWYEPIYL 120
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIAL 157
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
Db 121 GGVFOLEKGDRLSAEINRPDYLDFAESGQVYFGIAL 157
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||

; LENGTH: 157 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: not relevant
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Protein
; LOCATION: 1..157
; OTHER INFORMATION: /note= "Human TNF"
; US-08-714-960B-1

Query Match          96.4%; Score 777; DB 2; Length 157;
Best Local Similarity 96.2%; Pred. No. 3.9e-74;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
Db 1 VRSSRTPSDKPVAVHVNPAEQGLQWLNRRANALLANGVELRDNLVVPSEGLYLIYS 60
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||

QY 61 QVLFSGGCGPSTHVLTHTTISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
Db 61 QVLFKGQCGPSTHVLTHTTISRIAVSYQTKVNLLSAISPCCORETPEGAEALPWYEPIYL 120
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIAL 157
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
Db 121 GGVFOLEKGDRLSAEINRPDYLDFAESGQVYFGIAL 157
   |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
```

Search completed: May 5, 2006, 11:27:10  
Job time : 16.25 secs

```

RESULT 15
US-08-714-960B-1
; Sequence 1, Application US/08714960B
; Patent No. 6121237
; GENERAL INFORMATION:
; APPLICANT: RATHJEN, Deborah A
; APPLICANT: FERRANTE, Antonio
; TITLE OF INVENTION: Neutrophil Stimulating Peptides
; NUMBER OF SEQUENCES: 19
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: BANNER & WITCOFF, LTD.
; STREET: 10 S. Wacker Drive, Suite 3000
; CITY: Chicago
; STATE: Illinois
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 1.44 Mb storage diskette, 3.50 inch
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: IBM compatible PC/MS-DOS
; SOFTWARE: WordPerfect version 6.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/714,960B
; FILING DATE: 17-SEP-1996
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: AU RJ9065
; FILING DATE: 12-MAR-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/AU91/00086
; FILING DATE: 12-MAR-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/930,415
; FILING DATE: 09-NOV-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/107,235
; FILING DATE: 16-AUG-1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Resig, Robert H.
; REGISTRATION NUMBER: 32,168
; REFERENCE/DOCKET NUMBER: 92,622-B
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 715-1000
; TELEFAX: (312) 715-1234
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
```

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:23 ; Search time 45.5 Seconds  
(without alignments)  
1441.741 Million cell updates/sec

Title: US-10-668-178-16

Perfect score: 806

Sequence: 1 VRSSRTPSDAPVAHVANP.....RPDYLDFAESGQVYFGIAL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Published Applications AA.Main:\*  
1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pap:\*  
2: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pap:\*  
3: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pap:\*  
4: /cgn2\_6/ptodata/1/pubpaa/US10A\_PUBCOMB.pap:\*  
5: /cgn2\_6/ptodata/1/pubpaa/US10B\_PUBCOMB.pap:\*  
6: /cgn2\_6/ptodata/1/pubpaa/US11\_PUBCOMB.pap:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	806	100.0	157	5	US-10-668-178-15
2	806	100.0	157	5	US-10-668-178-16
3	778	96.5	157	4	US-10-262-630-13
4	778	96.5	157	4	US-10-354-985-2
5	778	96.5	157	5	US-10-668-178-2
6	777	96.4	157	3	US-09-756-301A-1
7	777	96.4	157	3	US-09-927-703-1
8	777	96.4	157	3	US-09-854-280-19
9	777	96.4	157	3	US-09-934-465-13
10	777	96.4	157	3	US-09-766-535A-1
11	777	96.4	157	3	US-09-854-208-19
12	777	96.4	157	3	US-09-756-161A-1
13	777	96.4	157	3	US-09-903-327A-7
14	777	96.4	157	3	US-09-756-398B-1
15	777	96.4	157	3	US-09-897-724-1
16	777	96.4	157	4	US-10-010-229-1
17	777	96.4	157	4	US-10-043-450-1
18	777	96.4	157	4	US-10-044-534-1
19	777	96.4	157	4	US-10-099-007A-1
20	777	96.4	157	4	US-10-043-432-1
21	777	96.4	157	4	US-10-119-621-1
22	777	96.4	157	4	US-10-208-145-1
23	777	96.4	157	4	US-10-262-630-9
24	777	96.4	157	4	US-10-305-347A-9
25	777	96.4	157	4	US-10-198-845-1
26	777	96.4	157	4	US-10-227-488-1
27	777	96.4	157	4	US-10-170-812-7

```

28 777 96.4 157 4 US-10-187-121-1 Sequence 1, Appli
29 777 96.4 157 4 US-10-176-460-1 Sequence 1, Appli
30 777 96.4 157 4 US-10-186-559-1 Sequence 1, Appli
31 777 96.4 157 4 US-10-371-961-1 Sequence 1, Appli
32 777 96.4 157 4 US-10-200-795-1 Sequence 1, Appli
33 777 96.4 157 4 US-10-319-011-1 Sequence 1, Appli
34 777 96.4 157 4 US-10-371-443-1 Sequence 1, Appli
35 777 96.4 157 4 US-10-379-866-1 Sequence 1, Appli
36 777 96.4 157 4 US-10-371-962-1 Sequence 1, Appli
37 777 96.4 157 4 US-10-354-985-1 Sequence 1, Appli
38 777 96.4 157 4 US-10-397-786A-1 Sequence 1, Appli
39 777 96.4 157 4 US-10-665-971-1 Sequence 1, Appli
40 777 96.4 157 4 US-10-637-759-1 Sequence 1, Appli
41 777 96.4 157 4 US-10-327-619-1 Sequence 1, Appli
42 777 96.4 157 4 US-10-774-118-1 Sequence 1, Appli
43 777 96.4 157 4 US-10-394-471B-17 Sequence 17, Appli
44 777 96.4 157 5 US-10-861-685-13 Sequence 13, Appli
45 777 96.4 157 5 US-10-668-178-1 Sequence 1, Appli

```

#### ALIGNMENTS

##### RESULT 1

```

US-10-668-178-15
; Sequence 15, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:
; APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO
; APPLICANT: MAYUMI, Tadanori
; APPLICANT: TSUTSUMI, Yasuo
; APPLICANT: NAKAGAWA, Shinsaku
; APPLICANT: IKEGAMI, Hakuo
; TITLE OF INVENTION: Biologically-active conjugate
; FILE REFERENCE: MAYUMI2A
; CURRENT APPLICATION NUMBER: US/10/668,178
; CURRENT FILING DATE: 2003-09-24
; PRIOR APPLICATION NUMBER: JP 83509/2002
; PRIOR FILING DATE: 2002-03-25
; PRIOR APPLICATION NUMBER: JP 185387/2002
; PRIOR FILING DATE: 2002-06-26
; NUMBER OF SEQ ID NOS: 16
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 15
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: Synthetic Construct
US-10-668-178-15

```

Query Match 100.0%; Score 806; DB 5; Length 157;

Best Local Similarity 100.0%; Pred. No. 6,3e-82; Mismatches 0; Indels 0; Gaps 0;

```

Matches 157; Conservative 0;
Qy 1 VRSSRTPSDAPVAHVANPQAEGQLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Db 1 VRSSRTPSDAPVAHVANPQAEGQLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
Qy 61 QVLFSGGCPSTHLLTHTTSRIASVQTRVNLLSAISPCORETPGAEALPWYEDYIL 120
Db 61 QVLFSGGCPSTHLLTHTTSRIASVQTRVNLLSAISPCORETPGAEALPWYEDYIL 120
Qy 121 GGVFOLETGRLSABINRPDYLDFAESGQVYFGIAL 157
Db 121 GGVFOLETGRLSABINRPDYLDFAESGQVYFGIAL 157

```

##### RESULT 2

```

US-10-668-178-16
; Sequence 16, Application US/10668178
; Publication No. US20050013795A1
; GENERAL INFORMATION:

```

APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO

APPLICANT: MAYUMI, Tadanori

APPLICANT: TSUTSUMI, Yasuo

APPLICANT: NAKAGAWA, Shinbaku

APPLICANT: IKEGAMI, Hakuo

TITLE OF INVENTION: Biologically-active conjugate

FILE REFERENCE: MAYUMI2A

CURRENT APPLICATION NUMBER: US/10/668,178

CURRENT FILING DATE: 2003-09-24

PRIOR APPLICATION NUMBER: JP 83509/2002

PRIOR FILING DATE: 2002-03-25

PRIOR APPLICATION NUMBER: JP 185387/2002

PRIOR FILING DATE: 2002-06-26

NUMBER OF SEQ ID NOS: 16

SOFTWARE: Patentin version 3.3

SEQ ID NO 16

LENGTH: 157

TYPE: PRT

ORGANISM: Artificial

FEATURE:

OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)

US-10-668-178-16

Query Match 100.0%; Score 806; DB 5; Length 157;

Best Local Similarity 100.0%; Pred. No. 6.3e-82; Indels 0; Gaps 0;

Matches 157; Conservative 0; Mismatches 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

DB 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY 61 QVLFSGGCPSTHVLTHHTISRIASVYQTRVNLISAIASPCORETPEGAALPWYEPIYL 120

DB 61 QVLFSGGCPSTHVLTHHTISRIASVYQTRVNLISAIASPCORETPEGAALPWYEPIYL 120

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157

DB 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 3

US-10-262-630-13

Sequence 13, Application US/10262630

Publication No. US20030338401A1

GENERAL INFORMATION:

APPLICANT: Dahiyat, Basail I.

APPLICANT: Desjarlais, John R.

APPLICANT: Filikov, Anton

APPLICANT: Muchhal, Unesh

APPLICANT: Tansey, Malu Lourdas G.

APPLICANT: Zalevsky, Jonathan

TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA

TITLE OF INVENTION: RELATED DISORDERS

FILE REFERENCE: A-68990-4/RFT/RMS/RMK

CURRENT APPLICATION NUMBER: US/10/262,630

CURRENT FILING DATE: 2003-01-27

PRIOR APPLICATION NUMBER: US 60/186,427

PRIOR FILING DATE: 2000-03-02

PRIOR APPLICATION NUMBER: US 09/945,150

PRIOR FILING DATE: 2001-08-31

PRIOR APPLICATION NUMBER: US 09/798,789

PRIOR FILING DATE: 2001-03-02

PRIOR APPLICATION NUMBER: US 09/981,289

PRIOR FILING DATE: 2001-10-15

NUMBER OF SEQ ID NOS: 33

SOFTWARE: Patentin version 3.2

SEQ ID NO 13

LENGTH: 157

TYPE: PRT

ORGANISM: Artificial Sequence

FEATURE:

OTHER INFORMATION: synthetic

FEATURE:

NAME/KEY: MISC FEATURE  
LOCATION: (112)..(112)  
OTHER INFORMATION: "Xaa" at position 112 can be Asp or Glu  
US-10-262-630-13

Query Match 96.5%; Score 778; DB 4; Length 157;

Best Local Similarity 96.2%; Pred. No. 8.7e-79;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

DB 1 VRSSRTPSDKPFVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60

QY 61 QVLFSGGCPSTHVLTHHTISRIASVYQTRVNLISAIASPCORETPEGAALPWYEPIYL 120

DB 61 QVLFSGGCPSTHVLTHHTISRIASVYQTRVNLISAIASPCORETPEGAALPWYEPIYL 120

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157

DB 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157

RESULT 4

US-10-354-985-2

Sequence 2, Application US/10354985

Publication No. US20040001802A1

GENERAL INFORMATION:

APPLICANT: MAYUMI, Tadanori et al.

TITLE OF INVENTION: PHYSIOLOGICALLY ACTIVE COMPLEX

FILE REFERENCE: MAYUMI-2

CURRENT APPLICATION NUMBER: US/10/354,985

CURRENT FILING DATE: 2003-01-31

PRIOR APPLICATION NUMBER: JP 083509/2002

PRIOR FILING DATE: 2002-03-25

PRIOR APPLICATION NUMBER: JP 1185387/2002

PRIOR FILING DATE: 2002-06-26

NUMBER OF SEQ ID NOS: 12

SOFTWARE: Patentin version 3.2

SEQ ID NO 2

LENGTH: 157

TYPE: PRT

ORGANISM: Artificial

FEATURE:

OTHER INFORMATION: Variant protein of human tumor necrosis factor

FEATURE:

NAME/KEY: misc feature

LOCATION: (11)..(11)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (65)..(65)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (90)..(90)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (98)..(98)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (112)..(112)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (128)..(128)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

US-10-354-985-2

Query Match

Best Local Similarity

Matches 151; Conservative

Score 778; DB 4; Length 157;

Pred. No. 8.7e-79;

0; Mismatches 6; Indels 0; Gaps 0;

QY1VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS60

DB1VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS60

QY61QVLFSGQGPCSTHVLTLTHTISRIASVYQTRVNLLSAIASPCORETPEGAEALPWYEPYIL120

DB61QVLFSGQGPCSTHVLTLTHTISRIASVYQTRVNLLSAIXSPCORETPEGAEALPWYEPYIL120

QY121GGVFOLETGDRLSAEINRPDYLDFAESGVYFGIALL157

DB121GGVFOLEXGDRLSAEINRPDYLDFAESGVYFGIALL157

RESULT 6

US-09-756-301A-1

Sequence 1, Application US/09756301A

Patent No. US20010027249A1

GENERAL INFORMATION:

APPLICANT: Le, Junming

APPLICANT: Vilcek, Jan

APPLICANT: Daddona, Peter

APPLICANT: Ghayeb, John

APPLICANT: Knight, David M.

APPLICANT: Siegel, Scott

TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of

TITLE OF INVENTION: Human Tumor Necrosis Factor

FILE REFERENCE: 0975.1005-008

CURRENT APPLICATION NUMBER: US/09/756,301A

PRIOR FILING DATE: 2001-01-08

PRIOR APPLICATION NUMBER: U.S. 09/133,119

PRIOR FILING DATE: 1998-08-12

PRIOR APPLICATION NUMBER: U.S. 08/570,674

PRIOR FILING DATE: 1995-12-11

PRIOR APPLICATION NUMBER: U.S. 08/324,799

PRIOR FILING DATE: 1994-10-18

PRIOR APPLICATION NUMBER: U.S. 08/192,102

PRIOR FILING DATE: 1994-02-04

PRIOR APPLICATION NUMBER: U.S. 08/192,861

PRIOR FILING DATE: 1994-02-04

PRIOR APPLICATION NUMBER: U.S. 08/192,093

PRIOR FILING DATE: 1994-02-04

PRIOR APPLICATION NUMBER: U.S. 08/010,406

PRIOR FILING DATE: 1993-01-29

PRIOR APPLICATION NUMBER: U.S. 08/013,413

PRIOR FILING DATE: 1993-02-02

PRIOR APPLICATION NUMBER: U.S. 07/943,852

PRIOR FILING DATE: 1992-09-11

PRIOR APPLICATION NUMBER: U.S. 07/853,606

PRIOR FILING DATE: 1992-03-18

PRIOR APPLICATION NUMBER: U.S. 07/670,827

PRIOR FILING DATE: 1991-03-18

NUMBER OF SEQ ID NOS: 19

SOFTWARE: FastSeq for Windows Version 4.0

SEQ ID NO 1

LENGTH: 157

TYPE: PRT

ORGANISM: Homo sapiens

US-09-756-301A-1

Query Match96.4%; Score 777; DB 3; Length 157;

Best Local Similarity96.2%; Pred. No. 1.1e-78;

Matches 151; Conservative1; Mismatches5; Indels0; Gaps0;

QY1VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS60

DB1VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS60

QY61QVLFSGQGPCSTHVLTLTHTISRIASVYQTRVNLLSAIASPCORETPEGAEALPWYEPYIL120

DB61QVLFSGQGPCSTHVLTLTHTISRIASVYQTRVNLLSAIXSPCORETPEGAEALPWYEPYIL120

QY121GGVFOLETGDRLSAEINRPDYLDFAESGVYFGIALL157

DB121GGVFOLEXGDRLSAEINRPDYLDFAESGVYFGIALL157

RESULT 5

US-10-668-178-2

Sequence 2, Application US/10668178

Publication No. US20050013795A1

GENERAL INFORMATION:

APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO

APPLICANT: MAYUMI, Tadanori

APPLICANT: TSUTSUMI, Yasuo

APPLICANT: NAKAGAWA, Shinsaku

APPLICANT: IKEGAMI, Hakuo

TITLE OF INVENTION: Biologically-active conjugate

FILE REFERENCE: MAYUMI2A

CURRENT APPLICATION NUMBER: US/10/668,178

PRIOR FILING DATE: 2003-09-24

PRIOR APPLICATION NUMBER: JP 83509/2002

PRIOR FILING DATE: 2002-03-25

PRIOR APPLICATION NUMBER: JP 185387/2002

PRIOR FILING DATE: 2002-06-26

NUMBER OF SEQ ID NOS: 16

SOFTWARE: PatentIn version 3.3

SEQ ID NO 2

LENGTH: 157

TYPE: PRT

ORGANISM: Artificial

FEATURE:

OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)

FEATURE:

NAME/KEY: misc feature

LOCATION: (11)..(11)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (65)..(65)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (90)..(90)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (98)..(98)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (112)..(112)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (128)..(128)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

US-10-668-178-2

Query Match96.5%; Score 778; DB 5; Length 157;

Best Local Similarity96.2%; Pred. No. 8.7e-79;

Matches 151; Conservative0; Mismatches6; Indels0; Gaps0;

QY1VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS60

DB1VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS60

QY61QVLFSGQGPCSTHVLTLTHTISRIASVYQTRVNLLSAIASPCORETPEGAEALPWYEPYIL120

DB61QVLFSGQGPCSTHVLTLTHTISRIASVYQTRVNLLSAIXSPCORETPEGAEALPWYEPYIL120

QY121GGVFOLETGDRLSAEINRPDYLDFAESGVYFGIALL157

DB121GGVFOLEXGDRLSAEINRPDYLDFAESGVYFGIALL157

RESULT 5

US-10-668-178-2

Sequence 2, Application US/10668178

Publication No. US20050013795A1

GENERAL INFORMATION:

APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO

APPLICANT: MAYUMI, Tadanori

APPLICANT: TSUTSUMI, Yasuo

APPLICANT: NAKAGAWA, Shinsaku

APPLICANT: IKEGAMI, Hakuo

TITLE OF INVENTION: Biologically-active conjugate

FILE REFERENCE: MAYUMI2A

CURRENT APPLICATION NUMBER: US/10/668,178

PRIOR FILING DATE: 2003-09-24

PRIOR APPLICATION NUMBER: JP 83509/2002

PRIOR FILING DATE: 2002-03-25

PRIOR APPLICATION NUMBER: JP 185387/2002

PRIOR FILING DATE: 2002-06-26

NUMBER OF SEQ ID NOS: 16

SOFTWARE: PatentIn version 3.3

SEQ ID NO 2

LENGTH: 157

TYPE: PRT

ORGANISM: Artificial

FEATURE:

OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)

FEATURE:

NAME/KEY: misc feature

LOCATION: (11)..(11)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (65)..(65)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (90)..(90)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (98)..(98)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (112)..(112)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (128)..(128)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

US-10-668-178-2

Query Match96.5%; Score 778; DB 5; Length 157;

Best Local Similarity96.2%; Pred. No. 8.7e-79;

Matches 151; Conservative0; Mismatches6; Indels0; Gaps0;

QY1VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS60

DB1VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS60

QY61QVLFSGQGPCSTHVLTLTHTISRIASVYQTRVNLLSAIASPCORETPEGAEALPWYEPYIL120

DB61QVLFSGQGPCSTHVLTLTHTISRIASVYQTRVNLLSAIXSPCORETPEGAEALPWYEPYIL120

QY121GGVFOLETGDRLSAEINRPDYLDFAESGVYFGIALL157

DB121GGVFOLEXGDRLSAEINRPDYLDFAESGVYFGIALL157

RESULT 5

US-10-668-178-2

Sequence 2, Application US/10668178

Publication No. US20050013795A1

GENERAL INFORMATION:

APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO

APPLICANT: MAYUMI, Tadanori

APPLICANT: TSUTSUMI, Yasuo

APPLICANT: NAKAGAWA, Shinsaku

APPLICANT: IKEGAMI, Hakuo

TITLE OF INVENTION: Biologically-active conjugate

FILE REFERENCE: MAYUMI2A

CURRENT APPLICATION NUMBER: US/10/668,178

PRIOR FILING DATE: 2003-09-24

PRIOR APPLICATION NUMBER: JP 83509/2002

PRIOR FILING DATE: 2002-03-25

PRIOR APPLICATION NUMBER: JP 185387/2002

PRIOR FILING DATE: 2002-06-26

NUMBER OF SEQ ID NOS: 16

SOFTWARE: PatentIn version 3.3

SEQ ID NO 2

LENGTH: 157

TYPE: PRT

ORGANISM: Artificial

FEATURE:

OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)

FEATURE:

NAME/KEY: misc feature

LOCATION: (11)..(11)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (65)..(65)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (90)..(90)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (98)..(98)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (112)..(112)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (128)..(128)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

US-10-668-178-2

Query Match96.5%; Score 778; DB 5; Length 157;

Best Local Similarity96.2%; Pred. No. 8.7e-79;

Matches 151; Conservative0; Mismatches6; Indels0; Gaps0;

QY1VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS60

DB1VRSSRTSPDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS60

QY61QVLFSGQGPCSTHVLTLTHTISRIASVYQTRVNLLSAIASPCORETPEGAEALPWYEPYIL120

DB61QVLFSGQGPCSTHVLTLTHTISRIASVYQTRVNLLSAIXSPCORETPEGAEALPWYEPYIL120

QY121GGVFOLETGDRLSAEINRPDYLDFAESGVYFGIALL157

DB121GGVFOLEXGDRLSAEINRPDYLDFAESGVYFGIALL157

RESULT 5

US-10-668-178-2

Sequence 2, Application US/10668178

Publication No. US20050013795A1

GENERAL INFORMATION:

APPLICANT: KABUSHIKI KAISHA HAYASHIBARA SEIBUTSU KAGAKU KENKYUJO

APPLICANT: MAYUMI, Tadanori

APPLICANT: TSUTSUMI, Yasuo

APPLICANT: NAKAGAWA, Shinsaku

APPLICANT: IKEGAMI, Hakuo

TITLE OF INVENTION: Biologically-active conjugate

FILE REFERENCE: MAYUMI2A

CURRENT APPLICATION NUMBER: US/10/668,178

PRIOR FILING DATE: 2003-09-24

PRIOR APPLICATION NUMBER: JP 83509/2002

PRIOR FILING DATE: 2002-03-25

PRIOR APPLICATION NUMBER: JP 185387/2002

PRIOR FILING DATE: 2002-06-26

NUMBER OF SEQ ID NOS: 16

SOFTWARE: PatentIn version 3.3

SEQ ID NO 2

LENGTH: 157

TYPE: PRT

ORGANISM: Artificial

FEATURE:

OTHER INFORMATION: synthetic (Variant protein of human tumor necrosis factor)

FEATURE:

NAME/KEY: misc feature

LOCATION: (11)..(11)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (65)..(65)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (90)..(90)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (98)..(98)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (112)..(112)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

FEATURE:

NAME/KEY: misc feature

LOCATION: (128)..(128)

OTHER INFORMATION: Xaa can be any naturally occurring amino acid

US-10-668-178-2

Query Match96.5%; Score 778; DB 5; Length 157;

Best Local Similarity96.2%; Pred. No. 8.7e-79;

Matches 151; Conservative0; Mismatches6; Indels0; Gaps0;

## RESULT 7

US-09-927-703-1

; Sequence 1, Application US/09927703

; Patent No. US20020022720A1

; GENERAL INFORMATION:

; APPLICANT: Le, Junming

; APPLICANT: Vilcek, Jan

; APPLICANT: Daddona, Peter

; APPLICANT: Ghayeb, John

; APPLICANT: Knight, David M.

; APPLICANT: Siegel, Scott

; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of

; FILE REFERENCE: 0975.1005-013 Human Tumor Necrosis Factor

; CURRENT APPLICATION NUMBER: US/09/927,703

; PRIOR FILING DATE: 2001-08-10

; PRIOR APPLICATION NUMBER: U.S. 09/756,398

; PRIOR FILING DATE: 2001-01-08

; PRIOR APPLICATION NUMBER: U.S. 09/133,119

; PRIOR FILING DATE: 1998-08-12

; PRIOR APPLICATION NUMBER: U.S. 08/570,674

; PRIOR FILING DATE: 1995-12-11

; PRIOR APPLICATION NUMBER: U.S. 08/324,799

; PRIOR FILING DATE: 1994-10-18

; PRIOR APPLICATION NUMBER: U.S. 08/192,102

; PRIOR FILING DATE: 1994-02-04

; PRIOR APPLICATION NUMBER: U.S. 08/192,861

; PRIOR FILING DATE: 1994-02-04

; PRIOR APPLICATION NUMBER: U.S. 08/192,093

; PRIOR FILING DATE: 1994-02-04

; PRIOR APPLICATION NUMBER: U.S. 08/010,406

; PRIOR FILING DATE: 1993-01-29

; PRIOR APPLICATION NUMBER: U.S. 08/013,413

; PRIOR FILING DATE: 1993-02-02

; PRIOR APPLICATION NUMBER: U.S. 07/943,852

; PRIOR FILING DATE: 1992-09-11

; PRIOR APPLICATION NUMBER: U.S. 07/853,606

; PRIOR FILING DATE: 1992-03-18

; PRIOR APPLICATION NUMBER: U.S. 07/670,827

; PRIOR FILING DATE: 1991-03-18

; NUMBER OF SEQ ID NOS: 19

; SOFTWARE: FastSeq for Windows Version 4.0

; SEQ ID NO 1

; LENGTH: 157

; TYPE: PRT

; ORGANISM: Homo sapiens

US-09-927-703-1

Query Match 96.4%; Score 777; DB 3; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.1e-78;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLYS 60

Db 1 VRSSRTPSDKPAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLYS 60

QY 61 QVLFSGQGCPSPTHVLLTHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPYVL 120

Db 61 QVLFKGGQGCPSPTHVLLTHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPYVL 120

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIAL 157

Db 121 GGVFOLEKGRLSAEINRPDYLDFAESQGVYFGIAL 157

## RESULT 8

US-09-854-280-19

; Sequence 19, Application US/09854280

; Patent No. US20020052027A1

; GENERAL INFORMATION:

; APPLICANT: Chen, Jian

; APPLICANT: Filvaroff, Ellen

; APPLICANT: Goddard, Audrey

; APPLICANT: Gurney, Austin

; APPLICANT: Li, Hanzhong

; TITLE OF INVENTION: IL-17 HOMOLOGOUS POLYPEPTIDES AND THERAPEUTIC USES THEREOF

; FILE REFERENCE: P1381R1C2

; CURRENT APPLICATION NUMBER: US/09/854,280

; CURRENT FILING DATE: 2001-05-10

; PRIOR APPLICATION NUMBER: US 09/311,832

; PRIOR FILING DATE: 1999-05-14

; PRIOR APPLICATION NUMBER: US 60/085,579

; PRIOR FILING DATE: 1998-05-15

; PRIOR APPLICATION NUMBER: US 60/113,621

; PRIOR FILING DATE: 1998-12-23

; NUMBER OF SEQ ID NOS: 26

; SEQ ID NO 19

; LENGTH: 157

; TYPE: PRT

; ORGANISM: Homo sapiens

US-09-854-280-19

Query Match 96.4%; Score 777; DB 3; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.1e-78;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLYS 60

Db 1 VRSSRTPSDKPAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLYS 60

QY 61 QVLFSGQGCPSPTHVLLTHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPYVL 120

Db 61 QVLFKGGQGCPSPTHVLLTHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPYVL 120

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIAL 157

Db 121 GGVFOLEKGRLSAEINRPDYLDFAESQGVYFGIAL 157

## RESULT 9

US-09-934-465-13

; Sequence 13, Application US/09934465

; Patent No. US20020102233A1

; GENERAL INFORMATION:

; APPLICANT: Ashkenazi, Avi J.

; TITLE OF INVENTION: APO-2 LIGAND

; FILE REFERENCE: 11669.22US03

; CURRENT APPLICATION NUMBER: US/09/934,465

; CURRENT FILING DATE: 2001-08-21

; PRIOR APPLICATION NUMBER: 08/584,031

; PRIOR FILING DATE: 1996-01-09

; NUMBER OF SEQ ID NOS: 17

; SOFTWARE: PatentIn Ver. 2.0

; SEQ ID NO 13

; LENGTH: 157

; TYPE: PRT

; ORGANISM: Homo sapiens

US-09-934-465-13

Query Match 96.4%; Score 777; DB 3; Length 157;

Best Local Similarity 96.2%; Pred. No. 1.1e-78;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLYS 60

Db 1 VRSSRTPSDKPAHVANPQAEQQLWLNRRANALLANGVELRDNLVVPSEGLYLYS 60

QY 61 QVLFSGQGCPSPTHVLLTHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPYVL 120

Db 61 QVLFKGGQGCPSPTHVLLTHTTISRIVSYQTRVNLISAIASPCORETPEGAEALPWYEPYVL 120

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESQGVYFGIAL 157

Db 121 GGVFOLEKGRLSAEINRPDYLDFAESQGVYFGIAL 157





```
; PRIOR APPLICATION NUMBER: U.S.07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-756-161A-1

Query Match          96.4%; Score 777; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.1e-78;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
    |||||
Db 1 VRSSRTPSDKPAHVAVNPAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
    |||||

Qy 61 QVLFSGQGPCSTHVLTLTHTISRIAVSYQTRVNLLSAIAISPCORETPEGAEALPWYEPYIYL 120
    |||||
Db 61 QVLFKGGQCPSTHVLTLTHTISRIAVSYQTRVNLLSAIAISPCORETPEGAEALPWYEPYIYL 120
    |||||

Qy 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157
    |||||
Db 121 GGVFOLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
    |||||

RESULT 13
US-09-903-327A-7
; Sequence 7, Application US/09903327A
; Patent No. US2002016433A1
; GENERAL INFORMATION:
; APPLICANT: Nemerow, Glen R.
; TITLE OF INVENTION: BIFUNCTIONAL MOLECULES AND VECTORS COMPLEXED THEREWITH FOR TARGET
; TITLE OF INVENTION: GENE DELIVERY
; FILE REFERENCE: 22908-1228
; CURRENT APPLICATION NUMBER: US/09/903,327A
; PRIOR FILING DATE: 2001-07-10
; PRIOR APPLICATION NUMBER: 09/613,017
; PRIOR FILING DATE: 2000-07-10
; NUMBER OF SEQ ID NOS: 33
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 7
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Human
; FEATURE:
; NAME/KEY: PEPTIDE
; LOCATION: (0)...(0)
; OTHER INFORMATION: Tumor necrosis factor-alpha (TNF alpha, mature
; OTHER INFORMATION: peptide)
US-09-903-327A-7

Query Match          96.4%; Score 777; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.1e-78;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
    |||||
Db 1 VRSSRTPSDKPAHVAVNPAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
    |||||

Qy 61 QVLFSGQGPCSTHVLTLTHTISRIAVSYQTRVNLLSAIAISPCORETPEGAEALPWYEPYIYL 120
    |||||
Db 61 QVLFKGGQCPSTHVLTLTHTISRIAVSYQTRVNLLSAIAISPCORETPEGAEALPWYEPYIYL 120
    |||||

Qy 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157
    |||||
Db 121 GGVFOLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
    |||||

RESULT 14
```

```
US-09-756-398B-1
; Sequence 1, Application US/09756398B
; Publication No. US20030017584A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Chrayeb, John M.
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of
; TITLE OF INVENTION: Human Tumor Necrosis Factor
; FILE REFERENCE: 0975-1005-006
; CURRENT APPLICATION NUMBER: US/09/756,398B
; CURRENT FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; PRIOR APPLICATION NUMBER: U.S. 07/943,852
; PRIOR FILING DATE: 1992-09-11
; PRIOR APPLICATION NUMBER: U.S. 07/853,606
; PRIOR FILING DATE: 1992-03-18
; PRIOR APPLICATION NUMBER: U.S.07/670,827
; PRIOR FILING DATE: 1991-03-18
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-756-398B-1

Query Match          96.4%; Score 777; DB 3; Length 157;
Best Local Similarity 96.2%; Pred. No. 1.1e-78;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
    |||||
Db 1 VRSSRTPSDKPAHVAVNPAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
    |||||

Qy 61 QVLFSGQGPCSTHVLTLTHTISRIAVSYQTRVNLLSAIAISPCORETPEGAEALPWYEPYIYL 120
    |||||
Db 61 QVLFKGGQCPSTHVLTLTHTISRIAVSYQTRVNLLSAIAISPCORETPEGAEALPWYEPYIYL 120
    |||||

Qy 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157
    |||||
Db 121 GGVFOLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
    |||||

RESULT 15
US-09-897-724-1
; Sequence 1, Application US/09897724
; Publication No. US20030175837A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Chrayeb, John
; APPLICANT: Knight, David M.
; APPLICANT: Siegel, Scott
```



**THIS PAGE BLANK (USPTO)**

GenCore version 5.1.7  
Copyright (c) 1993 - 2006 Bioceleration Ltd.

OM protein - protein search, using sw model

Run on: May 5, 2006, 11:26:47 ; Search time 9.75 Seconds  
(without alignments)  
745.303 Million cell updates/sec

Title: US-10-668-178-16  
Perfect score: 806  
Sequence: 1 VRSSSRTPSDAPVAHVANP.....RPDYLDFAESGOVFGIIAL 157

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 235405 seqs, 46284737 residues

Total number of hits satisfying chosen parameters: 235405

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications\_AA\_New:\*  
1: /SIDSS/ptodata/1/pubpaa/US06\_NEW\_PUB.pep:1\*  
2: /SIDSS/ptodata/1/pubpaa/US06\_NEW\_PUB.pep:2\*  
3: /SIDSS/ptodata/1/pubpaa/US07\_NEW\_PUB.pep:3\*  
4: /SIDSS/ptodata/1/pubpaa/US08\_NEW\_PUB.pep:4\*  
5: /SIDSS/ptodata/1/pubpaa/PCT\_NEW\_PUB.pep:5\*  
6: /SIDSS/ptodata/1/pubpaa/US09\_NEW\_PUB.pep:6\*  
7: /SIDSS/ptodata/1/pubpaa/US09\_NEW\_PUB.pep:7\*  
8: /SIDSS/ptodata/1/pubpaa/US10\_NEW\_PUB.pep:8\*  
9: /SIDSS/ptodata/1/pubpaa/US10\_NEW\_PUB.pep:9\*  
10: /SIDSS/ptodata/1/pubpaa/US11\_NEW\_PUB.pep:10\*  
11: /SIDSS/ptodata/1/pubpaa/US11\_NEW\_PUB.pep:11\*  
12: /SIDSS/ptodata/1/pubpaa/US60\_NEW\_PUB.pep:12\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	777	96.4	157	11 US-11-010-954-1	Sequence 1, Appli
2	777	96.4	157	11 US-11-053-750-1	Sequence 1, Appli
3	777	96.4	157	11 US-11-053-749-1	Sequence 1, Appli
4	777	96.4	157	11 US-11-108-001-12	Sequence 12, Appl
5	777	96.4	157	11 US-11-170-753-1	Sequence 1, Appli
6	777	96.4	157	11 US-11-179-353-1	Sequence 1, Appli
7	777	96.4	157	11 US-11-181-030-1	Sequence 1, Appli
8	777	96.4	157	11 US-11-182-033-1	Sequence 1, Appli
9	777	96.4	157	11 US-11-195-589-1	Sequence 1, Appli
10	777	96.4	158	11 US-11-082-544-4	Sequence 2, Appli
11	777	96.4	164	11 US-11-108-001-2	Sequence 2, Appli
12	777	96.4	170	8 US-10-490-953-35	Sequence 35, Appli
13	777	96.4	180	11 US-11-082-544-8	Sequence 8, Appli
14	777	96.4	233	9 US-10-523-328-1	Sequence 1, Appli
15	777	96.4	233	11 US-11-246-387-8	Sequence 8, Appli
16	768	95.3	157	9 US-10-504-389A-55	Sequence 55, Appl
17	632.5	78.5	235	11 US-11-032-797-8	Sequence 8, Appli
18	486	60.3	104	11 US-11-065-663-5	Sequence 5, Appli
19	486	60.3	104	11 US-11-249-714-5	Sequence 5, Appli
20	214.5	26.6	177	9 US-10-999-866-61	Sequence 61, Appl
21	214.5	26.6	205	9 US-10-995-561-1028	Sequence 1028, Ap

ALIGNMENTS

RESULT 1

US-11-010-954-1  
; Sequence 1, Application US/11010954  
; Publication NO. US20050249735A1  
; GENERAL INFORMATION:

; APPLICANT: Le, Junming  
; APPLICANT: Vilcek, Jan  
; APPLICANT: Daddona, Peter  
; APPLICANT: Ghayeb, John  
; APPLICANT: Knight, David  
; APPLICANT: Siegel, Scott  
; APPLICANT: Shealy, David  
; TITLE OF INVENTION: Methods of Treating Ankylosing Spondylitis Using Anti-TNF Antibio  
; FILE REFERENCE: 0975.1005-043  
; CURRENT APPLICATION NUMBER: US/11/010,954  
; CURRENT FILING DATE: 2004-12-13  
; PRIOR APPLICATION NUMBER: US 10/637,759  
; PRIOR FILING DATE: 2003-08-08  
; PRIOR APPLICATION NUMBER: US 09/920,137  
; PRIOR FILING DATE: 2001-08-01  
; PRIOR APPLICATION NUMBER: US 09/927,703  
; PRIOR FILING DATE: 2001-08-10  
; PRIOR APPLICATION NUMBER: US 09/756,398  
; PRIOR FILING DATE: 2001-01-08  
; PRIOR APPLICATION NUMBER: US 60/236,826  
; PRIOR FILING DATE: 2000-09-29  
; PRIOR APPLICATION NUMBER: US 60/223,360  
; PRIOR FILING DATE: 2000-08-07  
; NUMBER OF SEQ ID NOS: 30  
; SOFTWARE: FASTSEQ for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 157  
; TYPE: PRT  
; ORGANISM: Homo sapiens

US-11-010-954-1

Query Match 96.4%; Score 777; DB 11; Length 157;

Best Local Similarity 96.2%; Pred. No. 8e-76;

Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSSRTPSDAPVAHVANPQAEGQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60

DB 1 VRSSSRTPSDKPAHVANPQAEGQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60

```
QY 61 QVLFSGQCPSTHVLTTHTTISRIVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 120
DB 61 QVLFKGGQCPSTHVLTTHTTISRIVSYQTKVNLLSAISPQORETPEGAEAKPWYEPIYL 120
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
DB 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIIAL 157
```

## RESULT 2

```
US-11-053-750-1
; Sequence 1, Application US/11053750
; Publication No. US20050255104A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Scallan, Bernard
; TITLE OF INVENTION: Methods of Treating Psoriasis Using
; Anti-TNF Receptor Fusion Proteins
; FILE REFERENCE: 0975.1005-045
; CURRENT APPLICATION NUMBER: US/11/053,750
; CURRENT FILING DATE: 2005-02-07
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-053-750-1
```

```
Query Match 96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQCPSTHVLTTHTTISRIVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 120
DB 61 QVLFKGGQCPSTHVLTTHTTISRIVSYQTKVNLLSAISPQORETPEGAEAKPWYEPIYL 120
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
DB 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIIAL 157
```

## RESULT 3

```
US-11-053-749-1
; Sequence 1, Application US/11053749
; Publication No. US20050260201A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Scallan, Bernard
; TITLE OF INVENTION: Methods of Treating Rheumatoid Arthritis
; Using Anti-TNF Receptor Fusion Proteins
; FILE REFERENCE: 0975.1005-040
; CURRENT APPLICATION NUMBER: US/11/053,749
; CURRENT FILING DATE: 2005-02-07
; PRIOR APPLICATION NUMBER: US/09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-053-749-1

Query Match 96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGQCPSTHVLTTHTTISRIVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 120
DB 61 QVLFKGGQCPSTHVLTTHTTISRIVSYQTKVNLLSAISPQORETPEGAEAKPWYEPIYL 120
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157
DB 121 GGVFQLEKGRDLSAEINRPDYLDFAESGQVYFGIIAL 157

RESULT 4
US-11-108-001-12
; Sequence 12, Application US/11108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John R.
; APPLICANT: Steed, Paul Michael
; APPLICANT: Zalevsky, Jonathan
; APPLICANT: Szymkowski, David Edmund
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
; RELATED DISORDERS
```

```
FILE REFERENCE: A-68990-7
CURRENT APPLICATION NUMBER: US/11/108,001
CURRENT FILING DATE: 2005-04-14
PRIOR APPLICATION NUMBER: US 10/963,994
PRIOR FILING DATE: 2004-10-12
PRIOR APPLICATION NUMBER: US 09/798,789
PRIOR FILING DATE: 2001-03-02
PRIOR APPLICATION NUMBER: US 09/945,150
PRIOR FILING DATE: 2001-08-31
PRIOR APPLICATION NUMBER: US 09/981,289
PRIOR FILING DATE: 2001-10-15
PRIOR APPLICATION NUMBER: US 10/262,630
PRIOR FILING DATE: 2002-09-30
PRIOR APPLICATION NUMBER: US 60/553,908
PRIOR FILING DATE: 2004-03-17
PRIOR APPLICATION NUMBER: US 60/510,430
PRIOR FILING DATE: 2003-10-10
PRIOR APPLICATION NUMBER: US 60/509,960
PRIOR FILING DATE: 2003-10-09
PRIOR APPLICATION NUMBER: US 60/528,275
PRIOR FILING DATE: 2003-12-08
PRIOR APPLICATION NUMBER: US 60/523,647
PRIOR FILING DATE: 2003-11-20
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 13
SOFTWARE: PatentIn version 3.3
SEQ ID NO 12
LENGTH: 157
TYPE: PRT
ORGANISM: Homo sapiens
US-11-108-001-12

Query Match          96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60
QY 61 QVLFSGQGPCSTHLLTHTISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYEPYIYL 120
DB 61 QVLFKGQGPCSTHLLTHTISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYEPYIYL 120
QY 121 GGVFQLETDRLSAEINRPDYLDFAESGGVYFGIIAL 157
DB 121 GGVFQLEKGRLSAEINRPDYLDFAESGGVYFGIIAL 157

RESULT 5
US-11-170-753-1
Sequence 1, Application US/11/170753
Publication No. US20060013816A1
GENERAL INFORMATION:
APPLICANT: Le, Junming
APPLICANT: Vilcek, Jan
APPLICANT: Daddona, Peter
APPLICANT: Grayeb, John
APPLICANT: Knight, David
APPLICANT: Siegel, Scott
TITLE OF INVENTION: Methods of Treating Psoriasis Using
FILE REFERENCE: 0975.1005-050
CURRENT APPLICATION NUMBER: US/11/170,753
CURRENT FILING DATE: 2005-06-29
PRIOR APPLICATION NUMBER: U.S. 09/927,703
PRIOR FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: U.S. 09/756,398
PRIOR FILING DATE: 2001-01-08
PRIOR APPLICATION NUMBER: U.S. 09/133,119
PRIOR FILING DATE: 1998-08-12
PRIOR APPLICATION NUMBER: U.S. 08/570,674
PRIOR FILING DATE: 1995-12-11
PRIOR APPLICATION NUMBER: U.S. 08/324,799
PRIOR FILING DATE: 1994-10-18
PRIOR APPLICATION NUMBER: U.S. 08/192,102
PRIOR APPLICATION NUMBER: U.S. 08/192,861
PRIOR APPLICATION NUMBER: U.S. 08/192,093
PRIOR APPLICATION NUMBER: U.S. 08/010,406
PRIOR APPLICATION NUMBER: U.S. 08/570,674
PRIOR FILING DATE: 1995-12-11
```

```
FILE REFERENCE: A-68990-7
CURRENT APPLICATION NUMBER: US/11/108,001
CURRENT FILING DATE: 2005-04-14
PRIOR APPLICATION NUMBER: US 10/963,994
PRIOR FILING DATE: 2004-10-12
PRIOR APPLICATION NUMBER: US 09/798,789
PRIOR FILING DATE: 2001-03-02
PRIOR APPLICATION NUMBER: US 09/945,150
PRIOR FILING DATE: 2001-08-31
PRIOR APPLICATION NUMBER: US 09/981,289
PRIOR FILING DATE: 2001-10-15
PRIOR APPLICATION NUMBER: US 10/262,630
PRIOR FILING DATE: 2002-09-30
PRIOR APPLICATION NUMBER: US 60/553,908
PRIOR FILING DATE: 2004-03-17
PRIOR APPLICATION NUMBER: US 60/510,430
PRIOR FILING DATE: 2003-10-10
PRIOR APPLICATION NUMBER: US 60/509,960
PRIOR FILING DATE: 2003-10-09
PRIOR APPLICATION NUMBER: US 60/528,275
PRIOR FILING DATE: 2003-12-08
PRIOR APPLICATION NUMBER: US 60/523,647
PRIOR FILING DATE: 2003-11-20
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 30
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 1
LENGTH: 157
TYPE: PRT
ORGANISM: Homo sapiens
US-11-170-753-1

Query Match          96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60
DB 1 VRSSRTPSDKPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYIYS 60
QY 61 QVLFSGQGPCSTHLLTHTISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYEPYIYL 120
DB 61 QVLFKGQGPCSTHLLTHTISRIAVSYQTRVNLLSAISPCCORETPEGAEALPWYEPYIYL 120
QY 121 GGVFQLETDRLSAEINRPDYLDFAESGGVYFGIIAL 157
DB 121 GGVFQLEKGRLSAEINRPDYLDFAESGGVYFGIIAL 157

RESULT 6
US-11-179-359-1
Sequence 1, Application US/11/179359
Publication No. US20060018905A1
GENERAL INFORMATION:
APPLICANT: Le, Junming
APPLICANT: Wilcek, Jan
APPLICANT: Daddona, Peter
APPLICANT: Grayeb, John
APPLICANT: Knight, David
APPLICANT: Siegel, Scott
TITLE OF INVENTION: Methods for Treating Systemic Lupus Erythematosus
FILE REFERENCE: 0975.1005-054
CURRENT APPLICATION NUMBER: US/11/179,359
CURRENT FILING DATE: 2005-07-12
PRIOR APPLICATION NUMBER: U.S. 09/927,703
PRIOR FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: U.S. 09/756,398
PRIOR FILING DATE: 2001-01-08
PRIOR APPLICATION NUMBER: U.S. 09/133,119
PRIOR FILING DATE: 1998-08-12
PRIOR APPLICATION NUMBER: U.S. 08/570,674
PRIOR FILING DATE: 1995-12-11
PRIOR APPLICATION NUMBER: U.S. 08/324,799
PRIOR FILING DATE: 1994-10-18
PRIOR APPLICATION NUMBER: U.S. 08/192,102
PRIOR APPLICATION NUMBER: U.S. 08/192,861
PRIOR APPLICATION NUMBER: U.S. 08/192,093
PRIOR APPLICATION NUMBER: U.S. 08/010,406
PRIOR APPLICATION NUMBER: U.S. 08/570,674
PRIOR FILING DATE: 1995-12-11
```

```
; PRIOR FILING DATE: 1993-02-02
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-179-359-1

Query Match          96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 1 VRSSRTPSDKPVAVHVPANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 121 GGVFOLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

RESULT 7
US-11-181-030-1
; Sequence 1, Application US/11181030
; Publication No. US20060018906A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods for Treating Sarcoidosis Using
; FILE REFERENCE: 0975.1005-055
; CURRENT APPLICATION NUMBER: US/11/181,030
; PRIOR FILING DATE: 2005-07-13
; PRIOR APPLICATION NUMBER: U.S. 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: U.S. 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: U.S. 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: U.S. 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: U.S. 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,861
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/192,093
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: U.S. 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: U.S. 08/013,413
; PRIOR FILING DATE: 1993-02-02
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-181-030-1

Query Match          96.4%; Score 777; DB 11; Length 157;
```

```
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 1 VRSSRTPSDKPVAVHVPANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 121 GGVFOLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

RESULT 8
US-11-182-033-1
; Sequence 1, Application US/11182033
; Publication No. US20060018907A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; APPLICANT: Shealy, David
; TITLE OF INVENTION: Anti-TNF Antibodies and Peptides of Human
; FILE REFERENCE: 0975.1005-044
; CURRENT APPLICATION NUMBER: US/11/182,033
; PRIOR FILING DATE: 2005-07-14
; PRIOR APPLICATION NUMBER: US 10/637,759
; PRIOR FILING DATE: 2003-08-08
; PRIOR APPLICATION NUMBER: US 09/920,137
; PRIOR FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 60/236,826
; PRIOR FILING DATE: 2000-09-29
; PRIOR APPLICATION NUMBER: US 60/223,360
; PRIOR FILING DATE: 2000-08-07
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-182-033-1

Query Match          96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 1 VRSSRTPSDKPVAVHVPANPQAEQQLWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

QY 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 61 QVLFSGQGCPSHTVLLTHTISRIASVYQTRVNLLSAISPCCORETPEGAEALPWYEPIYL 120
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGQVYFGIALL 157
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 121 GGVFOLEKGDRLSAEINRPDYLDFAESGQVYFGIALL 157
   ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

RESULT 9
US-11-195-589-1
; Sequence 1, Application US/11195589
```



```
; Publication No. US20060024310A1
; GENERAL INFORMATION:
; APPLICANT: Le, Junming
; APPLICANT: Vilcek, Jan
; APPLICANT: Daddona, Peter
; APPLICANT: Ghayeb, John
; APPLICANT: Knight, David
; APPLICANT: Siegel, Scott
; TITLE OF INVENTION: Methods of Treating TNFa-Mediated
; Tissue Injury Using Anti-TNF Antibodies and Peptides
; FILE REFERENCE: 0975.1005-042
; CURRENT APPLICATION NUMBER: US/11/195,589
; PRIOR FILING DATE: 2005-08-02
; PRIOR APPLICATION NUMBER: US 09/927,703
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: US 09/756,398
; PRIOR FILING DATE: 2001-01-08
; PRIOR APPLICATION NUMBER: US 09/133,119
; PRIOR FILING DATE: 1998-08-12
; PRIOR APPLICATION NUMBER: US 08/570,674
; PRIOR FILING DATE: 1995-12-11
; PRIOR APPLICATION NUMBER: US 08/324,799
; PRIOR FILING DATE: 1994-10-18
; PRIOR APPLICATION NUMBER: US 08/192,102
; PRIOR FILING DATE: 1994-02-04
; PRIOR APPLICATION NUMBER: US 08/010,406
; PRIOR FILING DATE: 1993-01-29
; PRIOR APPLICATION NUMBER: US 08/013,413
; PRIOR FILING DATE: 02-02-1993
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 157
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-11-195-589-1

Query Match 96.4%; Score 777; DB 11; Length 157;
Best Local Similarity 96.2%; Pred. No. 8e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 1 VRSSRTPSKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
QY 61 QVLFSGGCPSTHVLTHHTISRIASVQTVFNLLSAISPCQRETPEGAEALPWYEPYIL 120
DB 61 QVLFSGGCPSTHVLTHHTISRIASVQTVFNLLSAISPCQRETPEGAEALPWYEPYIL 120
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGGVYFGIIAL 157
DB 121 GGVFOLETGDRLSAEINRPDYLDFAESGGVYFGIIAL 157

RESULT 10
US-11-082-544-4
; Sequence 4, Application US/11/082544
; Publication No. US20050249706A1
; GENERAL INFORMATION:
; APPLICANT: Bermudes, G.
; APPLICANT: King, I.
; APPLICANT: Clairmont, C.
; APPLICANT: Lin, S.
; APPLICANT: Belcourt, M.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
; TUMOR-TARGETED DELIVERY OF EFFECTOR MOLECULES
; FILE REFERENCE: 8002-059
; CURRENT APPLICATION NUMBER: US/11/082,544
```

```
; CURRENT FILING DATE: 2005-03-17
; PRIOR APPLICATION NUMBER: US/09/645,415
; PRIOR FILING DATE: 2000-08-24
; PRIOR APPLICATION NUMBER: 60/157,581
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: 60/157,637
; PRIOR FILING DATE: 1999-10-04
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 4
; LENGTH: 158
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-11-082-544-4

Query Match 96.4%; Score 777; DB 11; Length 158;
Best Local Similarity 96.2%; Pred. No. 8.1e-76;
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTPSDAPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 60
DB 2 VRSSRTPSKPVAHVANPQAEGLQWLNRRANALLANGVELRDNLQVVPSEGLYLIYS 61
QY 61 QVLFSGGCPSTHVLTHHTISRIASVQTVFNLLSAISPCQRETPEGAEALPWYEPYIL 120
DB 62 QVLFSGGCPSTHVLTHHTISRIASVQTVFNLLSAISPCQRETPEGAEALPWYEPYIL 121
QY 121 GGVFOLETGDRLSAEINRPDYLDFAESGGVYFGIIAL 157
DB 122 GGVFOLETGDRLSAEINRPDYLDFAESGGVYFGIIAL 158

RESULT 11
US-11-108-001-2
; Sequence 2, Application US/11/108001
; Publication No. US20050265962A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John R.
; APPLICANT: Steed, Paul Michael
; APPLICANT: Zalevsky, Jonathan
; APPLICANT: Zalevsky, David Edmund
; TITLE OF INVENTION: PROTEIN BASED TNF-ALPHA VARIANTS FOR THE TREATMENT OF TNF-ALPHA
; TITLE OF INVENTION: RELATED DISORDERS
; FILE REFERENCE: A-68990-7
; CURRENT APPLICATION NUMBER: US/11/108,001
; CURRENT FILING DATE: 2005-04-14
; PRIOR APPLICATION NUMBER: US 10/963,994
; PRIOR FILING DATE: 2004-10-12
; PRIOR APPLICATION NUMBER: US 09/798,789
; PRIOR FILING DATE: 2001-03-02
; PRIOR APPLICATION NUMBER: US 09/945,150
; PRIOR FILING DATE: 2001-08-31
; PRIOR APPLICATION NUMBER: US 09/981,289
; PRIOR FILING DATE: 2001-10-15
; PRIOR APPLICATION NUMBER: US 10/262,630
; PRIOR FILING DATE: 2002-09-30
; PRIOR APPLICATION NUMBER: US 60/553,908
; PRIOR FILING DATE: 2004-03-17
; PRIOR APPLICATION NUMBER: US 60/510,430
; PRIOR FILING DATE: 2003-10-10
; PRIOR APPLICATION NUMBER: US 60/509,960
; PRIOR FILING DATE: 2003-10-09
; PRIOR APPLICATION NUMBER: US 60/528,275
; PRIOR FILING DATE: 2003-12-08
; PRIOR APPLICATION NUMBER: US 60/523,647
; PRIOR FILING DATE: 2003-11-20
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 2
; LENGTH: 164
; TYPE: PRT
; ORGANISM: Homo sapiens
```

US-11-108-001-2

Query Match 96.4%; Score 777; DB 11; Length 164;  
Best Local Similarity 96.2%; Pred. No. 8.5e-76;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDAPVAHVANPQAEQQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60  
DB 8 VRSSRTSPDKPVAHVANPQAEQQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 67  
QY 61 QVLFSGQGPCSTHVLTHITISRIAVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 120  
DB 68 QVLFKGQGPCSTHVLTHITISRIAVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 127  
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 128 GGVFQLEKGRLSAEINRPDYLDFAESGQVYFGIIAL 164

RESULT 12

US-10-490-953-35  
; Sequence 35, Application US/10490953  
; Publication No. US20060088908A1  
; GENERAL INFORMATION:  
; APPLICANT: SKERRA, ARNE  
; APPLICANT: SCHLEUBER, STEFFEN  
; TITLE OF INVENTION: MUTAINS OF HUMAN NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN AND  
; FILE REFERENCE: 029029-0104  
; CURRENT APPLICATION NUMBER: US/10/490,953  
; CURRENT FILING DATE: 2004-03-29  
; PRIOR APPLICATION NUMBER: PCT/EP02/10490  
; PRIOR FILING DATE: 2002-09-18  
; PRIOR APPLICATION NUMBER: PCT/EP02/04223  
; PRIOR FILING DATE: 2002-04-16  
; PRIOR APPLICATION NUMBER: PCT/EP01/11213  
; PRIOR FILING DATE: 2001-09-27  
; NUMBER OF SEQ ID NOS: 39  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 35  
; LENGTH: 170  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: amino acid sequence  
; FEATURE:  
; NAME/KEY: CHAIN  
; LOCATION: (1)..(170)  
; OTHER INFORMATION: fusion protein of tumor necrosis factor alpha and  
; OTHER INFORMATION: affinity tag  
; FEATURE:  
; NAME/KEY: MISC FEATURE  
; LOCATION: (1)..(13)  
; OTHER INFORMATION: Affinity tag Arg-Gly-Ser-His(6)-Gly(3)  
; FEATURE:  
; NAME/KEY: MISC FEATURE  
; LOCATION: (14)..(170)  
; OTHER INFORMATION: mature tumor necrosis factor alpha

US-10-490-953-35

Query Match 96.4%; Score 777; DB 8; Length 170;  
Best Local Similarity 96.2%; Pred. No. 8.9e-76;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDAPVAHVANPQAEQQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60  
DB 14 VRSSRTSPDKPVAHVANPQAEQQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 73  
QY 61 QVLFSGQGPCSTHVLTHITISRIAVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 120  
DB 74 QVLFKGQGPCSTHVLTHITISRIAVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 133

QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 134 GGVFQLEKGRLSAEINRPDYLDFAESGQVYFGIIAL 170

RESULT 13

US-11-082-544-8  
; Sequence 8, Application US/11082544  
; Publication No. US20050249706A1  
; GENERAL INFORMATION:  
; APPLICANT: Bermudes, G.  
; APPLICANT: King, I.  
; APPLICANT: Clairmont, C.  
; APPLICANT: Lin, S.  
; APPLICANT: Belcourt, M.  
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR  
; FILE REFERENCE: 8002-059  
; CURRENT APPLICATION NUMBER: US/11/082,544  
; CURRENT FILING DATE: 2005-03-17  
; PRIOR APPLICATION NUMBER: US/09/645,415  
; PRIOR FILING DATE: 2000-08-24  
; PRIOR APPLICATION NUMBER: 60/157,581  
; PRIOR FILING DATE: 1999-10-04  
; PRIOR APPLICATION NUMBER: 60/157,637  
; PRIOR FILING DATE: 1999-10-04  
; NUMBER OF SEQ ID NOS: 61  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 8  
; LENGTH: 180  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Fusion construct

US-11-082-544-8

Query Match 96.4%; Score 777; DB 11; Length 180;  
Best Local Similarity 96.2%; Pred. No. 9.5e-76;  
Matches 151; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 VRSSRTSPDAPVAHVANPQAEQQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 60  
DB 24 VRSSRTSPDKPVAHVANPQAEQQLWLNRRNALLANGVELRDNLVVPSEGLYLIYS 83  
QY 61 QVLFSGQGPCSTHVLTHITISRIAVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 120  
DB 84 QVLFKGQGPCSTHVLTHITISRIAVSYQTRVNLLSAISPQORETPEGAEALPWYEPIYL 143  
QY 121 GGVFQLETGDRLSAEINRPDYLDFAESGQVYFGIIAL 157  
DB 144 GGVFQLEKGRLSAEINRPDYLDFAESGQVYFGIIAL 180

RESULT 14

US-10-523-328-1  
; Sequence 1, Application US/10523328  
; Publication No. US20060078944A1  
; GENERAL INFORMATION:  
; APPLICANT: Kuali, Jun  
; APPLICANT: Lin, Lih-Ling  
; APPLICANT: Wooteers, Joseph L.  
; APPLICANT: Nickbarg, Elliot  
; TITLE OF INVENTION: METHODS AND REAGENTS RELATING TO INFLAMMATION AND APOPTOSIS  
; FILE REFERENCE: WYTH-P01-001  
; CURRENT APPLICATION NUMBER: US/10/523,328  
; CURRENT FILING DATE: 2005-02-01  
; PRIOR APPLICATION NUMBER: 60/400,410  
; PRIOR FILING DATE: 2002-08-01  
; NUMBER OF SEQ ID NOS: 20  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 1  
; LENGTH: 233  
; TYPE: PRT



**THIS PAGE BLANK (USPTO)**